November 1991

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Is Big Oil Getting Bigger?

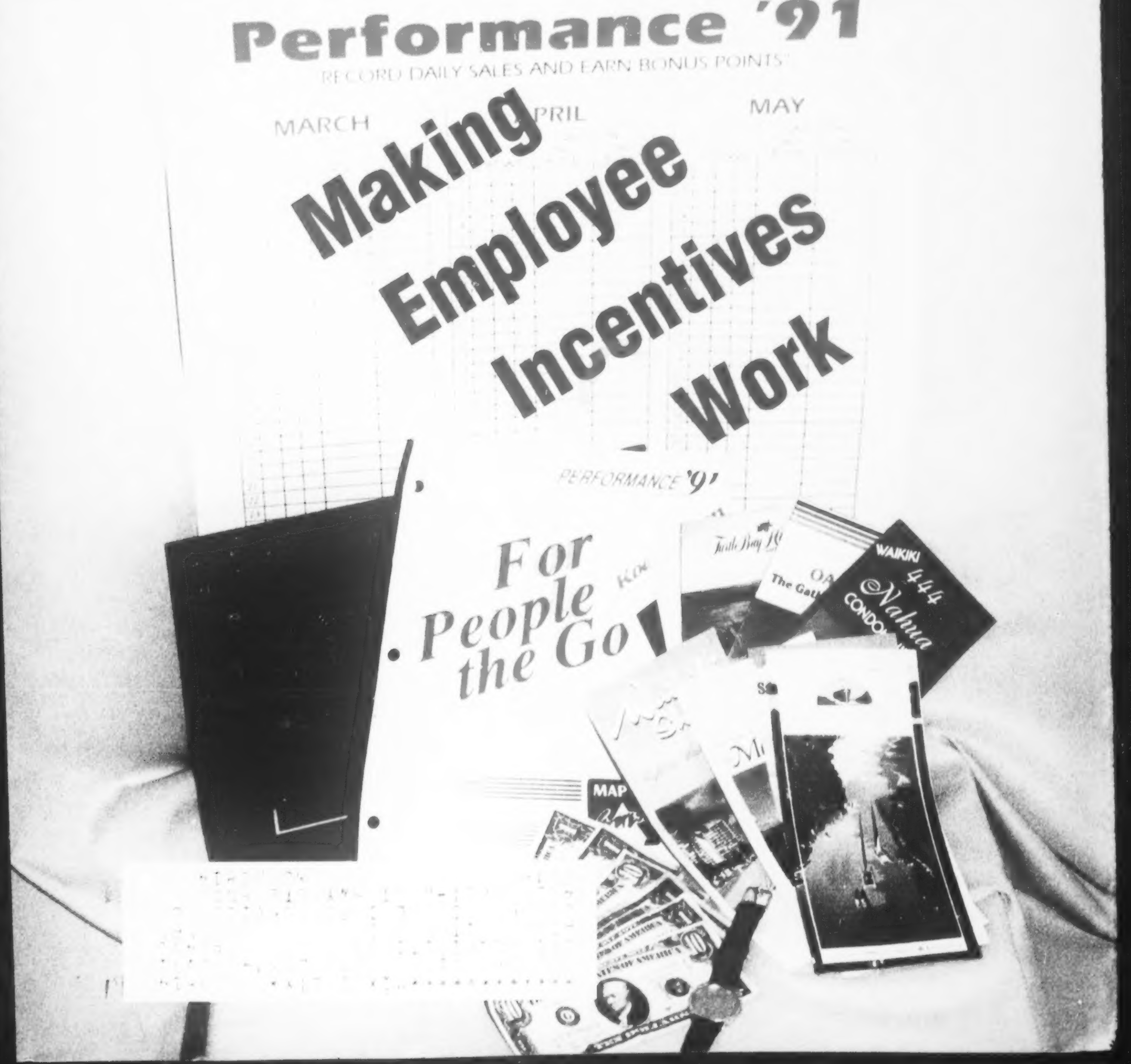
Aviation Fuel: Changes in the Air

Anticompetitive Claims Spark Investigations

NPN

National Petroleum News

Making Employee Incentives Work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NPN
NATIONAL PETROLEUM NEWS
Established in 1909

VOL. 83 **NO. 12**

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Editor's Viewpoint

One of the hardest tasks any employer or manager faces daily is motivating his or her employees to perform at the peak level of their capabilities. It's a challenge, certainly, one that requires commitment, planning and follow-through. But it's well worth the effort, too. As I see it, much of the driving force in the '90s behind a company's productivity, customer service image, improved employee turnover rates and ultimate profitability will be fueled by that company's employee incentive programs and efforts.

For C-store operators and petroleum marketers, motivation is a never ending battle. But as our cover report beginning on p28 points out, it's a battle that can be won. C-store operators and marketers alike have found innovative ways to spark enthusiasm into their staff personnel. Some of these retailers use monetary incentives, others use bonuses such as vacation trips, prizes and company recognition through award dinners and plaques.

Whatever the bonus or incentive might be, these tactics appear to be working. Although the investments into these programs are sometimes hefty, so are the potential rewards. C-store owners and marketers report increased sales and repeat business as well as enhanced employee morale and customer courteousness.

Earlier this year, Tulsa-based Mapco Petroleum invited me to attend a company gathering it dubbed "Performance '91." To kick the two-day program off the company held a trade show and awards dinner recognizing outstanding store managers. Not only did Mapco spend quite a few bucks on the gala affair, but the company also held a casino night for managers where they could win even more prizes. At the awards dinner, attended by 420 store managers flown in to Memphis from as far away as Alaska, top performing employees received high praise not only from their employer, but from their peers as well.

Each high scoring manager was awarded a handsome plaque for exceptional C-store and gasoline sales at his or her store. I was thoroughly impressed, thinking at the time that Mapco had come up with a smart approach for cultivating lasting relationships with employees at all levels. Several of the managers that I spoke with confirmed the benefits of this enlightened company attitude; most had been with Mapco for many, many years.

I think Mapco and other companies which have invested in their employees will not only increase their own company's worth, but will also improve their image in their respective communities. Unfortunately, the basic techniques (and benefits) of employee motivation are basically overlooked by too many companies. But those which have recognized the importance of these programs will be the leaders in the '90s and beyond. If your company hasn't started such a program, you might want to consider at least looking into it. Consider that it might require some changes in your operating style. You will have to decide where the incentive focus should be, on the store manager, the store employee, or both.

If you agree, you might want to take a few minutes to read our cover report. It could be the turning point for you and your employees to a longer-lasting, more productive and happier relationship.

—Peggy Smedley

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NATIONAL PETROLEUM NEWS

12 Regional News

12 **East**
Bankruptcies setting records in Atlantic Seaboard states

13 **West**
Shell begins casting off gasoline jobbers in West

14 **Midwest**
Improved profits sweeten South Dakota convention

16 **South**
IRS puts pinch on marketers for tax exempt forms

18 General News

18 Anticompetitive pricing claims spark investigations
18 API gets Thatcher for annual meeting
20 Shell retains lead in credit card sales
20 Kyodo Oil, Arco are off and running with Japanese C-stores
20 Star field-tests one-hose dispenser and new blender
25 Consumer group slams Big Oil; majors call charges untrue
26 API says gasoline prices fall as fast as they rise
26 UC-Berkeley develops steam-driven remediation process
27 Communication a problem between C-store operators, teens

28 Features

28 **Cover Report**
How to make employee incentives work for you

36 **Aviation Fuel**
Aviation fuel: Changes in the air

42 **Marketing**
Is 'Big Oil' getting bigger? Well, yes and no

58 **Operations Management—Howard Upton**
The callipygian cheerleader

60 **Legal Tips for Marketers—Sam Borenkind**
Amortization of intangible assets

62 **Marketer's Tax Corner—Irving L. Blackman**
Does an S corporation make cents?

64 **Marketing Management—Paul M. Forbes**
Why do you do what you do?

66 **C-Store Opportunities—Jim Fisher**
Existing facilities—proven profit centers

Departments

50 About Oil People
7 Ahead of the News
48 Briefs
9 Catching Up
73 Classified
70 Coming Meetings
3 Editor's Viewpoint
68 Letters
10 Marketplace
56 Product Showcase
8 Top of the News
10 Trends

Performance '91
For People on the Go

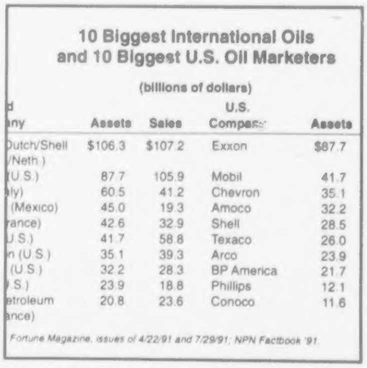
Profitability, productivity, customer service and employee turnover are the driving forces behind the employee incentive programs of the '90s.

Page 28

PHILLIPS AVIATION SERVICES, INC.

Aviation fuel is a complex market. Some marketers have renewed their commitments, some have backed away and some don't know which way they will go.

Page 36



10 Biggest International Oils and 10 Biggest U.S. Oil Marketers

(billions of dollars)

d ny	Assets	Sales	U.S. Company	Assets
utch/Shell /Neth.)	$106.3	$107.2	Exxon	$87.7
(U.S.)	87.7	105.9	Mobil	41.7
ly)	60.5	41.2	Chevron	35.1
(Mexico)	45.0	19.3	Amoco	32.2
ance)	42.6	32.9	Shell	28.5
.S.)	41.7	58.8	Texaco	26.0
n (U.S.)	35.1	39.3	Arco	23.9
(U.S.)	32.2	28.3	BP America	21.7
S.)	23.9	18.8	Phillips	12.1
troleum ance)	20.8	23.6	Conoco	11.6

Fortune Magazine, issues of 4/22/91 and 7/29/91; NPN Factbook '91

Has 'Big Oil' really gotten bigger or is it just keeping pace with all of the things around it?

Page 42

• TRENDS

Car Efficiencies Down, Head-on Collisions Up

The continued resistance of the nation's car makers to improvements in the mileage performance of their vehicles raises the specter that sooner or later—and probably sooner than later—they, and perhaps the oil industry as well, are going to get clobbered by Congress and other legislative/regulatory bodies for such lack of progress.

Congress, for example, is on the verge of a brass-knuckle fight right now over legislation that proposes that car manufacturers make substantial improvements in their mpg efficiencies. Right now the mpg numbers are on the downside and have been for the past six years.

The car makers are in business to manufacture cars that sell and, at the same time, earn them profits for their work. That's what free enterprise is all about. They make more on the big cars, especially the glitzy ones that are loaded from stem to stern with all kinds of special features and cosmetic innovations, than they do on the smaller models.

In doing so, however, they say they can't upgrade the miles per gallon averages of their fleets. They say the only way better performances can be achieved is by eliminating many big and medium-sized models. But that would affect their profits. Car makers insist they are responding mostly to consumer desires for the bigger, glitzier cars—but that per se also creates the stalemate: big cars and more profits vis a vis small cars and increased mpg efficiencies.

The most recent report from the Environmental Protection Agency (EPA)—issued in late September—says fuel efficiency for 1992 models is down for the sixth consecutive year; not much, of course, but down nevertheless, even if the numbers seem almost insignificant. The decrease in the 1992 comparison tests was only two-tenths of a point.

The EPA statistics indicate the mileage efficiency covering about 1,000 new models, domestic and foreign alike, is 27.5-mpg for the 1992 vehicles. Last year's average was 27.8-mpg. Prior years were 28.1 in 1987, 28.6 in 1988, 28.1 in 1989 and 27.8 in 1990. In other words, efficiencies have been relatively stagnant since the mid-'80s. The industry's most notable progress came in the 1976 to 1985 period when efficiencies rose from 14-mpg to 27-mpg.

EPA's latest report said six of the top 10 models can get 50-mpg or better. Topping the list was the minicompact Geo Metro XFi, a basic Japanese design marketed by General Motors. It averaged 53-mpg in city driving and 58-mpg on the highway. Four of the top 10 were variations of the Geo XFi, four were variations of the Honda Civic and two were versions of the Suzuki and Swift. All can get at least 39-mpg in the city and 43-mpg on the road.

On the other side of the spectrum were the Lamborghini and Rolls Royce types—sheer luxury, of course, but darned (for the want of a stronger word) tough on miles per gallon. None did better than 12-mpg in the city and 17-mpg on the road.

The EPA report unquestionably will have major impact on the current Senate debate to force each car maker to better its overall efficiency average by 40% within a decade. In the background is another ongoing problem involving the oil and car industries and the government over the installation of onboard canisters to reduce gasoline vapors during the refueling processes at service stations. EPA has been dilly-dallying on its congressional assignment to phase-in the canisters. In late September, the American Petroleum Institute (API) applied a little more heat on EPA to force the issue, i.e., "Get on with it, do it now, not later."

Meantime, the oil industry is spending tens of millions of dollars on reformulated fuel research and development and possible applications of alternative fuels like natural gas, alcohol dilutions, LPG and so on. It's enough to make one wonder what the year 2000 will really be like: A car population mix such as exists today—big cars, intermediates and minicompacts or a whole new world of vehicles dedicated to a cleaner atmosphere rather than mpgs.

—J. Richard Shaner

• MARKETPLACE AT A GLANCE

AVERAGE GASOLINE PRICES IN THE U.S. (per gal.)

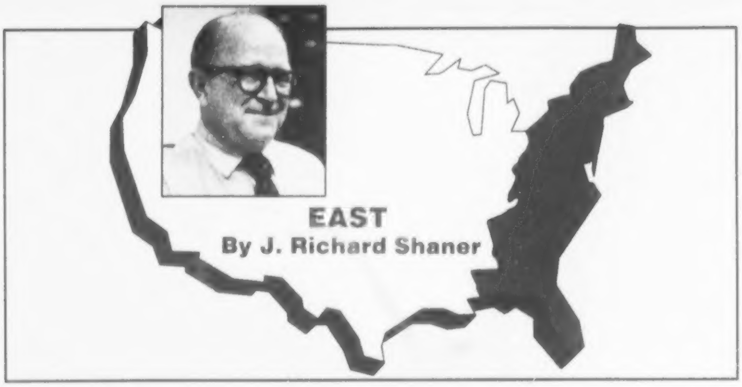
AUGUST	Gasoline (All types)	Leaded Regular	Unleaded Regular	Unleaded Premium
U.S. City Avg.	$1.196	*	$1.140	$1.318
Regions				
Northeast	1.268	*	1.191	1.400
North Central	1.202	*	1.163	1.319
South	1.182	*	1.113	1.285
West	1.143	*	1.103	1.283

** Data no longer collected or available.*
Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

STOCKS (Add 000 bbl.)

	9/27/91	9/28/90
Gasoline (Total) [a]	213,631	223,892
Unleaded Gasoline	168,352	172,008
Jet Kerosine	45,443	42,143
Distillates	138,276	134,807
Residual	48,391	51,488

[a] *Leaded regular prices no longer collected by Bureau of Labor Statistics.*
Source: American Petroleum Institute.



EAST

By J. Richard Shaner

Bankruptcies Setting Records In Atlantic Seaboard States

The American Bankruptcy Institute (ABI) says a record high of a million-plus bankruptcy cases will be filed in the United States by the end of 1991 and that the Atlantic Seaboard states from Maine to Florida will be the hardest hit, especially those in New England.

The executive director of the ABI, Samuel J. Gerdano, laid it on the line for believers and nonbelievers alike when he said flatly that no relief is in sight. He stated:

"This record number of filings shows no signs of decreasing, regardless of an improvement in the economy. The recession is not the main cause here. The only way the recession can push you over the edge is if you are already sitting on it."

The ABI forecast is the total for all 1991 failures—business and personal alike and all types of classifications, including Chapters 7, 11, 12 and 13. Oil industry and oil marketing failures are included in the totals, but the ABI said that no breakout was available for industry-by-industry forecasts.

What makes the ABI projection particularly disconcerting for East Coasters is the way it singles them out and underscores the grim forecast of a special committee of the Petroleum Marketers Assn. of America (PMAA) 18 months ago which said that 3,000 jobbers will have gone belly up by 1995 and 2,000 more will do likewise by 2000 [*NPN*—Jan. '90, p33].

That PMAA committee was headed by Jack Griffith, an Oklahoma marketer known for his integrity and his tough cookie approach to tough business problems [*NPN*—Aug. '91, p50].

ABI's "Top 10" for business failures in 1991 were all Atlantic Coast states. Here's the rundown:

Total Bankruptcy Filings (One Year)

State	June 30/July 1 1990	1991	Increase	% Chng.
N.H.	1,837	3,414	1,577	86%
R.I.	1,742	3,076	1,334	77
Mass.	7,560	12,942	5,382	71
Conn.	4,364	6,916	2,552	59
N.J.	12,640	19,449	6,809	54
Vt.	546	827	281	51
Maine	1,453	2,185	732	50
N.C.	10,695	15,540	4,845	45
Del.	873	1,260	387	44
N.Y.	29,047	40,260	11,213	39

Total Filings (1985-'91)

State	June 30/July 1 1985	1991	Increase	% Chng.
N.H.	535	3,414	2,879	538%
Mass.	2,031	12,942	10,911	537
P.Rico	1,527	8,306	6,779	444
Fla.	9,135	43,417	34,252	375
R.I.	750	3,076	2,326	310
Conn.	1,842	6,916	5,074	276
Ariz.	5,176	19,339	14,163	274
Vt.	229	827	598	261
Maine	623	2,185	1,562	251
Ga.	14,388	49,027	34,819	241

Also released with the "Top 10" was another compilation of bankruptcy filings from 1985 through 1991. Here again the Atlantic Seaboard states led them all with eight out of the first 10 places. The "outsiders" were Puerto Rico and Arizona. As in 1991's top leaders, New Hampshire had the highest percentage increase, 538%. It should be noted here, however, that percentages are relative and sometimes deceptive. For example, in the Top 10 for one year, New Hampshire held the percentage lead (86%) while New York held the numerical high, 40,260 filings, and New Jersey the runner-up position with 19,449 filings. The same holds true for the table that follows: Percentage-wise, New Hampshire was high while numerically Georgia was No. 1 with 49,027 filings and Florida was second-high with 43,417 filings.

In words of explanation, Charles M. Tatelbaum, an ABI vice president, put it this way:

"The preceding 12 months have seen approximately 70,000 business filings. While this pace is slower for individual cases, the size of insolvent companies has grown 50-fold over a decade earlier, resulting in increased credit risk for lenders, tightened credit for borrowers and a sharp increase in the legal costs associated with complex business cases.

"Most of the big corporate failures of the 1990s are direct descendants of the corporate debt binge of the 1980s. A higher percentage of corporate cash flow now goes to debt service, leaving many businesses on the edge of bankruptcy wherever there is a drop in sales or a rise in costs."

ABI says there is an imperative need for Congress to review and revise the Bankruptcy Code of 1978. "Twenty years ago, a similar study led to the creation of the current bankruptcy law," says Tatelbaum. "Much has happened to our economy, to credit and to bankruptcy since then, underscoring the need for a systematic and thorough review."

ABI itself was founded in 1982 to provide Congress and the public with unbiased research and analysis of bankruptcy matters.

Here's another table compiled by ABI which should be of interest to oil marketers, especially the fact that Chapter 11 filings, which they would normally use, are relatively low on the financial totem

Bankruptcy Filings,1981-'91

Fiscal

Ending 6/30	Total Filings	Chap. 7	Chap. 11	Chap. 12	Chap. 13
1981	360,329	265,719	7,828	NA	86,778
1982	367,866	255,095	14,058	NA	98,705
1983	374,734	251,319	21,206	NA	102,201
1984	344,275	232,991	19,913	NA	91,358
1985	364,536	244,647	21,420	NA	98,452
1986	477,856	332,657	24,442	NA	120,726
1987	561,278	397,548	22,564	4,824	136,300
1988	594,567	423,789	18,889	3,099	148,771
1989	642,933	457,234	17,447	1,717	166,539
1990	725,484	505,332	19,951	1,351	199,186
1991	880,399	612,324	22,493	1,358	242,192

poles. ABI says there are four key filing categories—Chapters 7, 11, 12 and 13. Chapters 7 and 13 are primarily personal filings; Chapter 13 is for agricultural filings; and, of course, Chapter 11 is for businesses which need relief from creditor pressures and time to seek economic stability through restructuring and refinancing.

The 18-member PMAA long-range committee which made its dire forecast two winters ago said flatly that independent marketers were going to be driven up the wall by the stricter environmental regs, supplier withdrawals, buyouts and mergers over the next decade.

"Of the 10,000 or so independent marketers in business now, expect 3,000 to be casualties by 1995," the committee said, adding: "During the next five years drop another 2,000 from the active business rolls. By the year 2000 only 5,000 will be on the scene—leaner, tougher and all that, but nevertheless only half as many as there are out there now.

"A ray of sunshine: The survivors should be able to retain the market share they presently control."

Old Times Return For Sun Oil Co.

Sun Oil Co. is regrouping and reshaping itself in its old image these days.

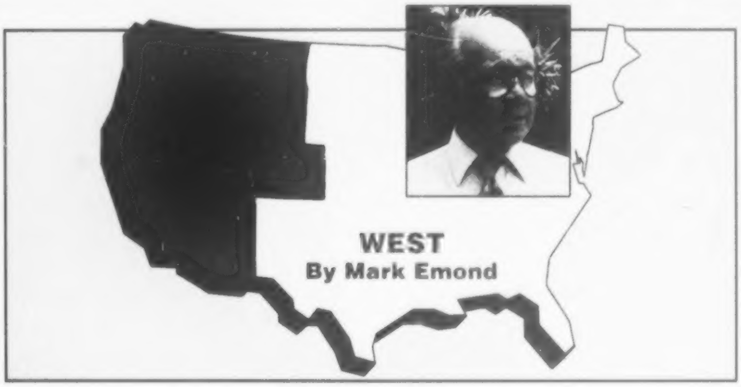
Sun's headquarters were located in downtown Philadelphia for most of its earlier years. And it was known as Sun Oil Co., too.

In the early '70s, it built a new building for the corporate executives and their operations in plushy suburban Radnor. Sun dropped "oil" out of its corporate name, sold off some of its assets, including its big marine and shipbuilding activities and established Sun Refining & Marketing Co. as its downstream subsidiary. Sun Refining stayed put in downtown Philadelphia. In the late '70s, it shifted its marketing offices from the familiar Walnut Street address to the brand new Penn Center complex overlooking city hall and the historic Liberty Bell.

Now Sun is in the process of redoing things again. It is consolidating all of its corporate offices and affairs in the space available in the Penn Center complex. It will be known as Sun Co. and it will merge Sun Refining and Marketing back into its fold. Radnor will continue to house the real estate subsidiary and the Sunbrook Conference Center, but everything else will be downtown.

A sidelight: All of the executives who had been living the good life in the spacious suburbs for the past two or three decades will now have to rejoin the commuters' world. Perhaps they may have to write themselves a little ditty about "Trains, buses and subways, here we come." The move is expected to be completed in the first quarter of 1992.

A Sun spokesman says the regrouping is part of its total restructuring program in which it expects to save as much as $100-million in its operations.



WEST

By Mark Emond

Shell Begins Casting Off Gasoline Jobbers in West

The earth continues to shake in the vicinity of Shell Oil, where momentous changes are in the making.

On top of trying to sell its 120,000 b/d refinery in Los Angeles, the company announced that it would not supply its branded wholesale jobbers in Oregon and Idaho after Feb. 29, 1992. This affected 24 Oregon jobbers and one Idaho jobber, who together operate about 250 service stations.

Shell said, too, that it would eliminate all unbranded gasoline sales west of the Rocky Mountains. It was considering additional reductions in other segments of the "noninvested network," meaning open dealers who own or control their own locations. This could happen anywhere in the West.

To some marketers, it appeared that Shell Oil already knew fairly well at that time what was going to happen with its Los Angeles refinery, or else how could the company have decided how much business it was going to dump? Shell was not then saying, however.

Shell said the decision to withdraw was made "after exploring various options" for the Los Angeles refinery and associated facilities. Previously, Shell had admitted it was negotiating with a number of companies for the sale of the refinery. Earlier still, the company said it would shut down the refinery if no one wanted to buy it, although a lot of people didn't take this alternative seriously.

In early 1990, prior to the attempted refinery sale, Shell had sold all 55 of its direct stations in the Seattle/Tacoma area to Texaco.

If you added up all the cuts and possible cuts Shell announced in September, it would come nowhere near the total output of the 120,000 b/d refinery. Therefore, a refinery shutdown didn't appear to be in the cards, some marketers believed.

By the same token, if the refinery were sold outright, Shell would be making more severe cuts—unless the company made a deal with the buyer to buy back some of the output. The latter seemed a possibility.

Shell continued to market in the Pacific Northwest near its 80,000 b/d refinery at Anacortes, Wash., through approximately the same size jobber network it was abandoning in Oregon and Idaho—25 branded jobbers with about 235 stations.

To say the least, Washington jobbers were unnerved.

Expansion-minded BP Oil Co., a relative newcomer to the West, saw Shell's move as an opportunity, but not east of the Cascade Mountains or in Idaho, where it did not market and did not plan to.

Jack C. Burdett, West Coast regional manager, said his greatest interest was in multibrand jobbers who were both BP and Shell. "In fact, we've already agreed to rebrand some of the Shell stations of BP jobbers who are multibranded," he added.

On the other hand, Burdett said BP in most cases was not interested in rebranding Shell stations where a jobber has both BP and Shell and was competing with himself in the same market.

He said, too, "We're not taking on new jobberships because we have Oregon west of the mountains covered in most areas. We're not going to take on a new Shell jobber just to compete with our existing BP jobbers."

Another company reportedly interested in the castoff of Shell jobbers was Texaco, which was said to be looking at "some of the jobberships or some of the stations."

Chevron was reported to be interested in some of the jobberships.

Is 'Big Oil' Getting Bigger? Well, Yes and No; But Not Really

By J. Richard Shaner
Executive Editor

There's no question to it that the nation's oil companies—majors, semi-majors and independents alike—are getting along with a lot less these days, i.e., fewer drilling rigs, fewer refineries, fewer retail outlets, fewer employees, etc., etc., etc.

Government and industry statistics are readily available to support all those negative factors. Companies such as Chevron, Shell, Arco and Exxon have, in recent months, made it known that belt-tightening processes are eliminating thousands of jobs and shutting down facilities all over the place.

Does this mean that the oil industry is shrinking in size—that perhaps the current recession as well as other economic and related growth factors are causing the industry to downsize on the one hand and enhance the domination of a few companies at the top on the other, like it or not?

No way. Somehow, this shrinkage—especially when viewed over the long term—is more illusory than realistic. The real truth is that oil's dimensions are more like those of the perennial dieter whose girth continues to expand no matter how many caloric adventures are undertaken to keep it in check.

During the past 20 years, for example, the nation's top oil companies have doubled, tripled and quadrupled their assets. Most of them are at record highs and, barring a major collapse of the economy, appear destined to continue their growth through the '90s.

Figures like these say yes, no question to it, "Big Oil" is getting bigger by leaps and bounds. But so has the economy, the gross national product, motor vehicle registrations, gasoline consumption, etc. Obviously, suppliers and product distributors must grow, too, simply to serve demand. The question, therefore, is: Has Big Oil really gotten bigger or is it just keeping pace with all of the things around it?

Bigness, like beauty, is often in the eye of the beholder.

It is interesting to note that while a number of big names like Gulf Oil, Commonwealth Oil & Refining, Skelly and Getty, Humble Oil & Refining, Tenneco Oil, Standard Oil Co. of Ohio and so on have disappeared from the domestic scene, virtually all occurred through acquisitions, mergers and in-house restructuring. Only

10 Biggest Industrials in the World and 10 Biggest in the U.S.

(billions of dollars)

World Company	Assets	Sales	U.S. Company	Assets	Sales
General Motors (U.S.)	$180.2	$125.0	General Motors	$180.2	$125.0
Ford Motor (U.S.)	173.7	98.3	Ford Motors	173.7	98.3
General Elec. (U.S.)	153.9	58.4	General Electric	153.9	58.4
Royal Dutch/Shell (Brit./Neth.)	106.3	107.2	Exxon	87.7	105.9
Exxon (U.S.)	87.7	105.9	IBM	87.6	69.0
IBM (U.S.)	87.6	69.1	Philip Morris	46.6	44.3
Fiat (Italy)	66.0	47.8	Chrysler	46.4	30.9
ENI (Italy)	60.5	41.8	Mobil	41.7	58.8
Brit. Petro. (Brit.)	59.2	59.5	DuPont	38.1	39.8
Toyota (Japan)	55.3	64.5	Chevron	35.1	39.3

10 Biggest International Oils and 10 Biggest U.S. Oil Marketers

(billions of dollars)

World Company	Assets	Sales	U.S. Company	Assets	Sales
Royal Dutch/Shell (Brit./Neth.)	$106.3	$107.2	Exxon	$87.7	$105.9
Exxon (U.S.)	87.7	105.9	Mobil	41.7	58.8
ENI (Italy)	60.5	41.2	Chevron	35.1	39.3
Pemex (Mexico)	45.0	19.3	Amoco	32.2	28.3
ELF (France)	42.6	32.9	Shell	28.5	24.4
Mobil (U.S.)	41.7	58.8	Texaco	26.0	41.2
Chevron (U.S.)	35.1	39.3	Arco	23.9	18.8
Amoco (U.S.)	32.2	28.3	BP America	21.7	18.6
Arco (U.S.)	23.9	18.8	Phillips	12.1	13.6
Total Petroleum (France)	20.8	23.6	Conoco	11.6	16.4

Sources: Fortune Magazine, issues of 4/22/91 and 7/29/91; NPN Factbook '91.

Corco can be considered a collapsed facility.

Can this be taken as an indication that Big Oil has predicated much of its growth processes on predatory practices, like the eating of its own or whoever or whatever's available? For a while, in the early to mid-'80s, that appeared to be a distinct possibility. But the merger fevers died out as the stakes rose higher and higher and a public reaction seemed to stir up questioning resentment in Congress and fears that a few really big companies would be the only survivors of significance. In other words, four or five big oil companies were at the top and a raft of regionals and smaller independent marketers filled in the gaps around the country.

In late September, Citizen Action, a Washington-based consumer group, charged that major oil companies were consolidating their marketing operations to increase their profits at the expense of small marketers and consumers alike. A similar position was taken several weeks earlier by the Petroleum Marketers Assn. of America (PMAA), the Society of Independent Gasoline Marketers of America (SIGMA) and the National Assn. of Convenience Stores. The American Petroleum Institute (API), on behalf of the major oil companies, issued a point-by-point rebuttal to the Citizen Action charges, as did Arco, which was singled out by the consumer's group for special treatment. (See related story on page 25)

The object of this particular article is not to try to treat or resolve those marketing problems. For the record, the suppliers and the smaller companies, particularly the independent marketers, have been jousting with each other in Congress and elsewhere since the John D. Rockefeller days at the turn of the century. For example, divorcement was a major Congressional issue in the 1930s and has resurfaced repeatedly through the years in response to marketplace pressures and aberrations. So have pricing policies, patronage and company stores, leases and so on.

No one would dispute that the top major oil companies have become truly mammoth when evaluated by the traditional criteria of assets, resources and sales—that they rank right up there, many of them, with the other giant multinationals and domestic firms (see tables). Today, however, huge corporations are being closely scrutinized for other, perhaps more questionable signs of bigness such as undue market concentration or domination that would rise from their economic strength.

Perhaps one of the most interesting set of tables in this report deals with the

The 1990 Asset Growth of 20 U.S. Oil Companies Versus 1980 and 1970

(billions of dollars)

Company	1990	% Growth '90/'70	Company	1980	Company	1970
Exxon	$87.7	356.8	Exxon	$56.6	Std. N.J.	$19.2
Mobil	41.7	427.8	Mobil	32.7	Texaco	9.9
Chevron	35.1	431.8	Texaco	26.4	Gulf	8.7
Amoco	32.2	496.3	Socal	22.2	Mobil	7.9
Shell	28.5	519.6	Std.Ind.	20.2	Socal	6.6
Texaco	26.0	162.6	Gulf	18.6	Std. Ind.	5.4
Arco	23.9	443.2	Shell	17.6	Shell	4.6
BP Amer.	21.7	1,176.4	Atl. Rich.	16.6	Atl.Rich.	4.4
Phillips	12.1	290.3	Std. Ohio	12.1	Phillips	3.1
Conoco	11.6	286.7	Conoco	11.0	Cont'l.	3.0
Marathon	11.3	769.2	Sun	11.9	Sun	2.8
Unocal	9.8	292.0	Phillips	9.8	Union/Cal.	2.5
Coastal	9.2	NC	Getty	8.3	Cities Svc.	2.2
Amer. Hess	9.1	727.0	Union/Cal.	6.8	Getty	1.9
Sun Oil	9.0	221.4	Amer. Hess	5.9	Std. Ohio	1.7
Pennzoil	5.3	NC	Cities Svc.	5.5	Marathon	1.3
Ashland	5.1	400.1	Marathon	5.0	Amer. Hess	1.1
Kerr-McGee	3.5	400.0	Tenneco	3.8	Ashland	1.0
Fina	2.8	NC	Ashland	3.4	Kerr-McGee	0.7
Citgo	2.3	4.5	Kerr-McGee	2.8	Skelly	0.7

Sources: NPN Factbooks, 1971, 1981, 1991.

The 20 Biggest Refiners—1990 Versus 1970

(Runs in millions of b/d)

Company	1990	% of U.S. Total	Company	1980	% of U.S Total	Company	1970	% of U.S. Total
Chevron	1,403	10.4	Exxon	1,246	9.2	Std. N.J.	989	9.1
Exxon	999	7.4	Std.Cal.	1,181	8.8	Texaco	948	8.7
Shell	927	6.9	Texaco	902	6.7	Std. Ind.	895	8.2
Amoco	896	6.6	Std. Ind.	882	6.5	Shell	887	8.2
Mobil	722	5.3	Shell	876	6.5	Mobil	818	7.5
BP America	717	5.3	Mobil	734	5.4	Std. Cal.	710	6.5
Texaco	619	4.6	Atl. Rich.	727	5.4	Gulf	702	6.5
Sun	561	4.1	Gulf	719	5.3	Atl. Rich.	678	6.2
Marathon	554	4.1	Phillips	421	3.1	Phillips	526	4.8
Arco	531	3.9	Marathon	415	3.1	Sun	424	3.9
Conoco	396	2.9	Std. Ohio	401	3.0	Union	385	3.5
Unocal	363	2.7	Union	392	2.9	Std. Ohio	377	3.5
Ashland	318	2.3	Sun	371	2.8	Ashland	289	2.7
Aramco	298	2.2	Ashland	363	2.7	Cont'l.	288	2.7
Phillips	293	2.2	Conoco	293	2.2	CitiesSvc.	278	2.6
Petro.Ven.	274	2.0	Getty	269	2.0	Getty	194	1.8
Coastal	262	1.9	Cities Svc.	238	1.8	Marathon	187	1.7
Total Petro.	187	1.4	Coastal	197	1.5	Union Pac.	116	1.1
Dia. Sham.	177	1.3	Union Pac.	195	1.4	Amer. Hess	112	1.0
Fina	165	1.2	Tosco	169	1.3	Petrofina	99	0.9

Source: American Petroleum Institute, Market Shares and Individual Company Data. In the table above, 1989 data were used as 1990 to preserve continuity, there being little change and 1990 data not being available.

degree of concentration of companies in gasoline sales, refinery runs, production and reserves. It must be assumed that if major oil companies were simply growing bigger and taking over, these concentration ratios would show that vividly. What they do show, however, is that the degree of concentration has actually declined over the last 20 years.

For example, four companies controlled 29.3% of the gasoline sales in 1990 versus 30.7% in 1970. Similarly, eight companies controlled 47% of the gasoline market in 1990 compared with 54.6% in 1970. Fifteen companies "owned" 64.7% in 1990 against 74.9% 20 years ago. That's a decline of almost 16%.

Changes, changes, changes

In comparing the data in the various tables that accompany this article, it must be remembered that company name, restructuring and acquisition changes have been many during the past 20 years.

For example, Exxon's antecedents include the biggest of them all, Standard Oil Co. of New Jersey, and satellites like Esso Standard Oil Co. and Humble Oil & Refining Co.

Mobil's predecessors include Standard Oil Co. of New York, Standard-Vacuum Oil Co. and Socony-Vacuum Oil Co.

BP America is one of the more interesting cases and is expected to be one of the top two or three oil companies by 1999. Standard Oil Co. of Ohio was the original Rockefeller company, but was locked into that state by the court order that broke up the Rockefeller empire in 1911. It escaped via the usual secondary brand route, including a company called BP Oil.

BP Oil Ltd. London hit the jackpot in the Alaskan drilling derby and subsequently sold its production rights to Sohio, taking—instead of cash—a percentage share of the Cleveland-based company's stock with the proviso that the shares could increase as crude production rose. In the early '80s, this BP reached the maximum of 55%, making it a half-owner rather than an interested bystander.

BP London, which had extensive drilling and exploration operations and crude oil sales in North America, decided to put everything into one package. It bought up the 45% interest that was held by Sohio shareholders, dumped the resident management and installed its own executives and consolidated U.S. operations in Cleveland under the name of BP America. Since then it bought 4,000 or so Gulf stations in the Southeast from Chevron,

The 20 Biggest Crude Oil Producers—1990 Versus 1970

(In thousands of b/d)

Company	1990	% of U.S. Total	% Chng. '90/'70	Company	1980	Company	1970
BP Amer.	784	8.5	NC	Exxon	787	Std. N.J.	946
Exxon	693	7.5	(26.7)	Std. Ohio	716	Texaco	808
Arco	660	7.2	62.6	Atl. Rich.	556	Gulf	626
Shell	494	5.4	(20.0)	Shell	511	Shell	595
Chevron	482	5.2	1.7	Std. Ind.	464	Std. Cal.	474
Texaco	480	5.2	(40.6)	Texaco	413	Std. Ind.	466
Amoco	390	4.2	(16.3)	Gulf	364	Atl. Rich.	406
Mobil	293	3.2	(24.0)	Std. Cal	335	Mobil	385
Phillips	254	2.8	(6.3)	Mobil	318	Getty	317
Unocal	165	1.8	(47.5)	Getty	271	Union	314
Oryx Ener.	144	1.6	NC	Phillips	270	Phillips	271
Marathon	144	1.6	(17.7)	Sun	206	Sun	259
Occidental	135	1.5	NC	Union	173	Cities Svc.	203
Conoco	112	1.2	(3.2)	Marathon	168	Cont'l.	188
Amer. Hess	71	0.8	(27.6)	Cities Svc.	155	Marathon	177
Union Pac.	64	0.7	NC	Conoco	148	Long. Bch.	164
Long. Bch.	54	0.6	NC	Amer. Hess	88	Amer. Hess	98
Enron	53	0.6	NC	Tenneco	79	Tenneco	87
Snta Fe/Pac.	51	0.6	NC	Long Bch.	73	Superior	65
Valero Ener.	44	0.5	NC	El Paso	72	La. Land	62

NC: No comparable figures were available on any 1970 data. Data above include condensate and natural gas liquids.

Source: American Petroleum Institute, Market Shares and Individual Company Data. In the table above, 1989 data were used as 1990 to preserve continuity, there being little change and 1990 data not being available.

Refined Product Sales: The 20 Biggest 1990 Versus 1970

(In thousands of b/d)

Company	1990	% Chng. '90/'70	Company	1980	Company	1970
Chevron	1,489	59.7	Exxon	1,503	Std. N.J.	1,753
Shell	1,188	18.2	Std. Cal.	1,253	Texaco	1,274
Exxon	1,109	(36.7)	Texaco	980	Shell	1,005
Amoco	1,025	6.4	Std. Ind.	957	Std. Ind.	963
BP Amer.	925	136.6	Shell	922	Std. Cal.	936
Mobil	903	(2.8)	Mobil	797	Mobil	929
Texaco	858	(32.7)	Gulf	737	Gulf	800
Coastal	780	NC	Atl. Rich.	703	Atl. Rich.	763
Marathon	689	220.5	Amer. Hess	550	Phillips	616
Sun	641	20.7	Sun	544	Sun	531
Citgo	633	124.5	Ashland	498	Amer. Hess	529
Phillips	579	(3.4)	Marathon	464	Union	422
Conoco	490	36.3	Phillips	460	Std. Ohio	391
Unocal	443	5.0	Union	422	Cont'l.	366
Arco	440	(42.2)	Std. Ohio	414	Ashland	344
Amer. Hess	428	(19.1)	Conoco	338	Cities Svc.	282
Ashland	364	5.8	Getty	305	Getty	224
Fina	200	70.1	Cities Svc.	271	Marathon	215
Dia. Sham.	185	NC	Kerr-McGee	158	Skelly	120
Murphy	107	NC	Amer. Petro.	138	Amer. Petro.	117

Refined products include gasoline, distillates, resid and all other refinery-manufactured items. Some refinery sales may include products purchased elsewhere and resold as refinery sales.

Source: American Petroleum Institute, Market Shares and Individual Company Data, and NPN rebranded them BP America and is now engaged in strengthening its East Coast holdings and making a determined bid for a major presence in the Pacific Northwest. Gulf Oil's remnants are owned now by Cumberland Farms, an East Coast convenience store chain with a lifetime assignment of the Gulf logo and is keeping it alive in the Northeast.

Among the other major name changes:

- Diamond Shamrock split itself with the downstream segment becoming known as Diamond Shamrock Refining and Marketing Co.
- Standard of California is now known as Chevron Corp.
- Standard of Indiana packaged the old American Oil Co. into Amoco Oil Co. and changed it again to Amoco Corp.
- Getty Oil, the old Mid-Continent independent and its partner, Skelly Oil, were grabbed by Texaco in a surprising deal which elbowed Pennzoil Corp. aside—an act that later cost Texaco $4-billion, plus another billion or so in attorneys' fees and legal costs, to settle in the courts. Texaco subsequently sold the old Getty's East Coast stations and other holdings to Power Test Corp., a very small Long Island, N.Y.-based gasoline marketer who switched things around so that Getty was the surviving corporate structure and Power Test was simply a small division.
- Cities Service Co., was another prime example of the changing scene. In trouble, it was picked up by an international oil producer, Occidental Petroleum Co. Occidental promptly sold off bits and pieces and consigned Citgo, as it became known, to Southland Corp., the nation's biggest convenience store chain.

Degree of Concentration: It Has Eased Up in 20 Years

Number of Companies	% Chng. '90/'70	1990	1980	1970
MOTOR GASOLINE SALES				
4 Companies	(4.8)	29.3	28.5	30.7
8 Companies	(7.6)	47.0	49.5	54.6
15 Companies	(15.8)	64.7	66.3	74.9
20 Companies	(14.1)	70.3	72.1	80.0
REFINERY RUNS				
4 Companies	(2.9)	31.3	31.2	34.2
8 Companies	(10.4)	50.6	53.9	61.0
15 Companies	(13.6)	71.0	73.6	84.6
20 Companies	(13.0)	78.9	81.5	91.9
OIL PRODUCTION				
4 Companies	(2.2)	28.5	25.3	26.3
8 Companies	4.7	46.4	40.8	41.7
15 Companies	(0.6)	57.5	56.1	56.9
20 Companies	(0.7)	60.4	60.6	60.4
OIL RESERVES				
4 Companies	NC	31.2	31.1	NA
8 Companies	NC	49.3	46.3	NA
15 Companies	NC	59.0	59.5	NA
20 Companies	NC	60.9	62.7	NA

NC: Not Comparable; NA : Not Available.

Source: American Petroleum Institute, Market Shares and Individual Company Data; In above table, 1989 data were used for 1990 to preserve continuity, there being little change and 1990 data not being available.

Southland, in a financial dither of its own, sold 50% of Citgo to Venezuela's state oil company. Southland later sold the other 50% of Citgo to Venezula, making it the third domestic oil company entirely owned by overseas interests (the other two being Shell and BP America). Citgo recently acquired Champlin Oil Co., a fair-sized wholesaler in the South and Southwest, and is now rebranding it with the Citgo flag.

All these various changes took place at a time when many small petroleum marketers were going belly up through no fault of their own; most simply couldn't survive the economic pressures. But the changes almost made it appear that Big Oil was getting bigger and that's all there was to it.

To understand what's going on, each of the various tables that are a part of this article should be studied closely with the name changes in mind.

Exxon, second largest oil company in the world and the biggest in the U.S., has grown 357% in 20 years, its assets rising from $19.2-billion in 1970 to $87.7-billion in 1990. At the same time, Exxon has been displaced by Chevron as the nation's biggest refiner and seller of refined products and by BP America as the nation's biggest oil producer.

Mobil, which ranks second in assets with a 20-year growth of 428% ($41.7-billion in 1990 vs. $7.9-billion in 1970) still ranks eighth in crude oil production, sixth in refined products sales and fifth in refining. Really no significant change in 20 years.

Shell, currently the nation's No. 1 gasoline marketer, has increased its asset values 520%, from $4.6-billion in 1970 to $28.5-billion in 1990. Shell has been the No. 1 gasoline marketer for the past five years but is now in danger of losing this title to Chevron. There's even talk in the marketplaces that Shell may be challenged by the mid-'90s by its British counterpart, BP America [*NPN*—Oct. '91, p30].

BP America experienced the biggest technical growth in assets over the years—almost 1,200%. BP's antecedent, Standard Oil Co. of Ohio, recorded $1.7-billion in 1970; $12.1-billion in 1980 and $21.7-billion in 1990. But at $21.7-billion, BP America is still well down the list of the biggest companies. It's only a jump or two ahead of Phillips, Conoco and Marathon.

All these numbers and changes make it plain that oil is a very volatile industry from stem to stern; that's something the industry has known for a long, long time; and that growth per se is relative. The various tables demonstrate that virtually all of the companies that were ranked by assets in 1970 were still on the hit list for 1990—almost like a classroom of school kids moving up the line and improving themselves annually as they rise from grade to grade.

What all this data really means, however, is something everybody has known for years: the top 20 oil companies dominate the industry—reserves, production, refining and marketing—and although there's constant movement and foot shuffling in the various categories, there is little real change in the power structures themselves.

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Editor's Viewpoint

The chance of being a victim in a violent crime is now greater than being hurt in a traffic accident... Last year, the United States led the world in murder, rape and robbery rates; as an example, American women are eight times more likely to be raped than European women... C-stores account for 6.1% of all robberies.

Frightening, isn't it. These are some of the startling statistics that appeared this past month in the National Assn. of Convenience Stores' (NACS) survey on C-store crime and security. Three studies were conducted for NACS examining various aspects of the crime issue. These included patterns and trends in C-store crime and the effectiveness of robbery deterrence measures.

I must confess that after reading the NACS report, I was more confused than ever on several issues, and whether the industry has really made any strides in resolving certain C-store security issues. There is little in the report that convinces me, for example, that two clerks are safer than one.

However, there was some very encouraging data in the report. In the past 15 years, convenience store crime has declined. In fact, the robbery rate per store was cut in half from 1976-'86, in large part due to the widespread introduction of store security measures. And, although C-store robberies did increase 4% in 1990, this was the lowest rate reported in all robbery categories.

Perhaps even more significant is the concentration factor. Almost 80% of all C-stores were robbery-free in 1990, and 78% had no robberies in the prior year. To top that off, while 13% of U.S. C-stores experienced one robbery last year, only 7% had two or more such incidents. What this means, NACS reports, is that almost two-thirds or 65% of all C-store robberies were confined to 6.5% of all U.S. store locations.

What does this data tell us? First, attempts to educate employees and improve overall safety in C-stores, i.e., cameras, drop safes, clear windows, etc., are obviously working. Second, the gathering and analysis of crime statistics are also greatly improving. Assuming it will follow the report's recommendations, NACS will be taking some positive steps in this direction, including conducting annual industrywide crime surveys, providing C-store operators a mechanism for uniform reporting of crime statistics and reconciling robbery counts with those reported by the Federal Bureau of Investigations. This last step is long overdue.

C-store crime might not be as rampant as many feared. But it remains a very serious industry problem. If we want to demonstrate to customers and employees that C-stores are safe places to shop and work, then we all need to work together to identify problems and workable solutions.

And I emphasize "working together." There are areas where various segments of the industry do not see eye to eye—HR 2966, the Petroleum Marketing Competition Enhancement Act, is one example. But the crime issue is another matter. We certainly can and should join forces to convince the public that C-stores are safe.

I think Ernie Banks, "Mr. Cub," who was signing autographs at the Spangler Candy Co. booth at the NACS convention in Orlando said it best: To solve this problem and others, "We only need to come together once." *—Peggy Smedley*

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NATIONAL PETROLEUM NEWS

12 Regional News

12 **West**
Monday-morning quarterbacking Shell's pending refinery sale

13 **South**
Phillips selling assets to increase cash flow

14 **Midwest**
Gasoline expansion at full tilt for Des Moines marketer

16 **East**
Sun's restructuring upgrades Atlantic as in-house competitor

19 General News

19 Economist claims Citizen Action report is all wet
19 Texaco launches new fleet program
20 PRI of Honolulu makes major reorganization
20 Move over diesel fuel, vegetable oil fuel has arrived
21 New spoilage control techniques keep food throwaways at bay
21 Mobil outlines new station lease fees
22 Citgo to pay record OSHA settlement
22 Woman receives $18-million in Texaco lawsuit
22 Chevron and San Francisco utility company form joint CNG venture
23 Citizen Action targets CIA in 1986 oil price crash suit
23 Washington state investigates Exxon station sale to BP
24 Selective eligibility affects family leave bill, NAWGA says
24 BP America jumps on recycling bandwagon

26 Features

26 **Cover Report**
Fuel oil outlook: Ad wars

32 **Marketing**
Jobber fights federal EPA in first storage tank case

36 **Management**
Financing problems still hover over petroleum marketers

38 **Pro & Con**
Industry responses to HR 2966

48 **Operations Management—Howard Upton**
Tank-tightness precision test

50 **Legal Tips for Marketers—Sam Borenkind**
More on customer-based intangibles

52 **Marketer's Tax Corner—Irving L. Blackman**
Anyone dying to get a tax break?

54 **Marketing Management—Paul M. Forbes**
Negotiating pay—earning $1,000 a minute

55 **C-Store Opportunites—Jim Mitchell**
The 'M' system for cooler display

Departments

44 About Oil People
7 Ahead of the News
42 Briefs
9 Catching Up
60 Classified
56 Coming Meetings
3 Editor's Viewpoint
58 Letters
10 Marketplace
46 Product Showcase
8 Top of the News
10 Trends

NPN's annual fuel oil outlook focuses on the media battle being waged by oil heat marketers and rival natural gas and electric utilities.

Page 26

Ownbey Enterprises, Dalton, Ga., is the distributorship named in the EPA's first civil lawsuit for UST violations.

Page 32

API and the Coalition square off in the pages of *NPN* over HR 2966. Here are their responses, pro and con.

Page 38

Tough Going Affects Third-Quarter Earnings

For most oil companies, third-quarter earnings reports left much to be desired. The sluggish economy, weak demand, soft prices and special write-offs by some companies were generally blamed for the almost non-stop array of minus signs.

Only Exxon and Citgo stood out on the positive side—Exxon with a 3.7% increase and Citgo with a plus 51.3% for their third quarters. But don't forget, a small increase of 3.3% for Exxon is $40-million while a 51.3% increase for Citgo is $25-million.

For the first nine months of 1991, Exxon recorded an increase of 30%, or roughly $1-billion more than the like period of last year. Mobil was up too for the nine months, 23.9% over 1990. Conoco and Citgo were among the others that improved themselves over the preceding year—Conoco by 12.9% and Citgo by 9.5%.

Among the biggest losers in the third quarter were Unocal, down 92.6%; Total Petroleum, down 91%; Coastal, 89.7; Marathon, 72.0% and Fina, 70.9%.

Shell, still struggling to regain its financial footing, lost $14-million in the third quarter (versus a profit of $227-million last year) and netted only $43-million for the first nine months of 1991 compared with a net of $590-million last year.

Third-Quarter, Nine-Month Earnings Were Depressing

(Millions of dollars)

Company	3rd Q. 1991	3rd Q. 1990	% Chng.	9 Mos. 1991	9 Mos. 1990	% Chng.
Exxon	$1,115.0	$1,075.0	3.7	$4,480.0	$3,445.0	30.0
Mobil	365.0	379.0	(3.7)	1,520.0	1,227.0	23.9
Chevron	313.0	403.0	(22.3)	1,254.0	1,524.0	(17.7)
Amoco	290.0	530.0	(45.3)	1,331.0	1,275.0	(3.2)
Shell	(14.0)	227.0	--	43.0	590.0	(92.7)
Texaco	286.0	381.0	(24.9)	970.0	1,062.0	(8.7)
Arco	(156.0)	462.0	--	441.0	1,445.0	(69.5)
Phillips	56.0	178.0	(68.5)	232.0	542.0	(57.2)
Conoco	209.0	310.0	(32.6)	760.0	673.0	12.9
Marathon	23.0	82.0	(72.0)	158.0	292.0	(45.9)
Unocal	9.0	121.0	(92.6)	89.0	363.0	(75.5)
Coastal	3.4	33.0	(89.7)	83.9	130.7	(35.8)
Amer. Hess	(7.5)	280.0	--	135.9	247.5	(45.1)
Sun	(436.0)	25.0	--	(352.0)	211.0	--
Pennzoil	32.4	26.4	22.7	67.3	63.8	5.5
Ashland (*)	62.5	59.1	5.8	145.0	182.1	(20.4)
Kerr-McGee	26.8	43.1	(37.8)	66.8	100.3	(33.4)
Fina	7.7	26.5	(70.9)	20.2	106.5	(81.0)
Citgo	66.0	43.6	51.3	219.2	200.2	9.5
Murphy	43.6	37.6	16.0	(35.9)	95.1	--
Total Petro.	3.3	36.8	(91.0)	(.8)	41.7	--
Dia. Sham.	17.4	53.2	(67.3)	39.4	69.7	(43.5)

(*) Fourth quarter and full year; fiscal ends 9/30.

Downstream, Some Companies Made Out OK

(Millions of dollars)

Company	3rd Qtr. 1991	3rd Qtr. 1990	% Chng.	9 Mos. 1991	9 Mos. 1990	% Chng.
Exxon (Total)	$410	$246	67	$2,295	$1,011	127
Domestic	98	54	82	467	102	358
Foreign	312	192	63	1,828	909	50
Mobil (Total)	173	5	336	894	375	138
Domestic	40	(22)	--	205	75	173
Foreign	133	27	393	689	300	130
Chevron (Total)	126	35	(260)	409	613	(33)
Domestic	(10)	(53)	--	73	376	(80)
Foreign	136	88	55	336	237	42
Texaco (Total)	200	169	18	665	633	5
Domestic	82	108	(24)	207	309	(33)
Foreign	118	61	93	458	324	41
Amoco (*)	94	262	(64)	535	292	83
Shell	(14)	13	--	(5)	65	--
Arco	59	138	(57)	218	385	(43)
Phillips	43	51	(16)	95	160	(47)
Conoco	44	71	(38)	188	136	38
Sun	8	14	(43)	119	170	(30)
Marathon	65	142	(40)	318	482	(34)

(*) Worldwide; domestic breakout not available.

NACS Security Study: Just a 'Beginning'

A 20-month independent research report on store security, commissioned by the National Assn. of Convenience Stores, was presented at the association's 30th annual meeting November 5 in Orlando, Fla. Centering on three key areas—crime and security; homicide and rape; and robbery deterrence—the report was designed to help create the safest practical working and shopping environment for convenience store employees and customers, according to NACS.

Several statistics in the report indicated that the industry is making progress in improving store security. For example, 79% of all C-stores in the survey were found to be robbery-free. While pleased with some of the developments shown in the survey, NACS says there is much work to be done to curtail crime, and referred to its first comprehensive study on security as a "beginning."

Many of the study's recommendations will require an expanded role and involvement in the security area. Recommendations include the creation of additional task forces, new reporting mechanisms and commissioning more annual surveys. However, the study lacked specific recommendations on steps operators could take to improve security. For instance, the study made no recommendation on the one clerk versus two clerks issue other than further study on "repeat robbery locations" situations. That recommendation was made after research determined that two clerks at night had no impact on security for 90-97% of the companies which added a second clerk.

Other survey findings: 65% of homicides were random crimes; 66.6% of rapes were not in conjunction with a robbery; handguns were used in 71% of the cases; and, surprisingly, installation of closed-circuit television systems resulted in a first-year reduction in crime and an increase in second-year crime.

The research was conducted by F. Barry Schreiber, Ph.D., a professor of criminal justice at St. Cloud State University, St. Cloud, Minn.; Rosemary J. Erickson, president, Athena Research Corp., Washington, D.C.; and Robert M. Figlio, Ph.D., a professor of sociology at the University of California-Riverside.

• TRENDS

Gasoline Derby: Changes May Be in the Wind

They're in the home stretch now, and if it can be assumed that the last three months of 1991 will be no better or no worse than the first nine months and no positions will change, look for some surprising developments in the ongoing gasoline derby which determines who's the nation's No. 1 retailer.

It's a real horse race right now, the tightest it has been in years. There are three contenders and they're so close at this point in time that any one of them could emerge from the pack and be acclaimed as the champion by a nose—or less, if that's possible.

The frontrunners are Shell, which has owned the No. 1 title for the past five years, Exxon and Chevron.

Would you believe it, in an industry selling more than 115-billion gal. of gasoline a year, that the margin between the current leader and the runner-up is only 46-million gal., and the margin separating second and third place is less than that, only 31-million gal.?

Those margins are equal to less than two days of gasoline sales by any one of the three. Thus a hot, slam bang promotion program, or an unexpected streak of good luck, could probably change the outcome (and with it the title) for any one of them. It must be remembered, however, that these are preliminary figures and involve "guesstimating" concepts based on tenuous nine-month totals. The "official" full-year figures won't be available until springtime, probably mid-April or thereabouts. It must be noted, too, that these are gross gasoline gallons reported by the suppliers—branded, unbranded, retail, wholesale, etc., the whole bit.

Shell, the leader, has or is having another bad year, financially and in the gasoline marketplaces. Things have been so drab for Shell that many economists and other forecasters didn't believe it was in the cards for the titlist to hang on; that it wouldn't be possible for another year.

Preliminary figures indicate Shell's gasoline volume will be down about 3.5% for the year 1991. It was flat in 1990 and down almost 5% in 1989. Even with the anticipated 1991 drop-off, however, Shell is now expected to retain the No. 1 retailer title by one of the slimmest margins ever. Another surprising point is that Shell's gross gallonage will drop below the 10-billion gal. level it has maintained annually since 1987. Only one other company, Chevron, has ever topped 10-billion gal. before and that happened in 1984, immediately after the California oil company's acquisition of Gulf Oil. It lasted only one year.

The next surprise of the current derby is Exxon's leapfrogging over Chevron and Texaco from fourth to second place. Assuming all the assumptions heretofore are correct, Exxon will show an 8.9% increase in gasoline sales in 1991, at a time when nationwide demand is as sluggish as the economy. Except for Shell, which is experiencing that 3.5% decline, all others among the top six experienced volume improvements in 1991, the lowest being Chevron with 1.8% and the others being Texaco with 1.8%; Amoco, 3.2%; and Mobil, 4.1%; and Exxon, 8.9%.

Chevron's gasoline performance in 1991 is considered disappointing by some industry observers. In view of Shell's problems, Chevron had been expected to be almost a shoo-in as its successor when the horns and whistles blow at midnight, Dec. 31. But that doesn't seem to be in the cards now. Exxon's mighty surge is the reason why.

Here's what the overall picture looked like as the six top companies raced through the fourth-quarter home stretch:

Gross Gallonage

Rank '91	Rank '90	Co.	(Add 000) 1991	(Add 000) 1990	% Chng '91 v '90
1	1	Shell	9,811,200	10,163,790	(3.5)
2	4	Exxon	9,765,210	8,968,050	8.9
3	2	Chevron	9,734,550	9,565,920	1.8
4	3	Texaco	8,983,380	8,738,100	2.8
5	5	Amoco	8,922,060	8,646,120	3.2
6	6	Mobil	8,569,470	8,232,210	4.1

—By J. Richard Shaner

• MARKETPLACE AT A GLANCE

AVERAGE GASOLINE PRICES IN THE U.S. (per gal.)

SEPTEMBER	Gasoline (All types)	Leaded Regular	Unleaded Regular	Unleaded Premium
U.S. City Avg.	$1.199	*	$1.143	$1.324
Regions				
Northeast	1.289	*	1.213	1.419
North Central	1.167	*	1.132	1.291
South	1.184	*	1.114	1.291
West	1.178	*	1.140	1.312

** Data no longer collected or available.*
Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

STOCKS (Add 000 bbl.)

	11/1/91	11/2/90
Gasoline (Total) [a]	204,207	221,221
Unleaded Gasoline	161,426	171,557
Jet Kerosine	43,631	45,131
Distillates	131,569	138,227
Residual	46,571	49,667

[a] Leaded regular prices no longer collected by Bureau of Labor Statistics.
Source: American Petroleum Institute.

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An Environmental/Regulatory Update
Internal Store Theft: Stopping the Profit Drain
How to Improve Your ROI

NPN

National Petroleum News

Good News, Bad News:

Marketers Hang Tough

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Editor's Viewpoint

I think many marketers and C-store operators would agree that if we wanted to pin a label on 1991, the "Year of Survival" would be quite appropriate. For quite a few of you, I'm sure that just keeping the doors open was a daily struggle.

But most of you have survived. However, I also believe that in 1992 we all have to extend our reach—and our commitment—beyond survival. To do that, we have to equip ourselves with the very best tools available. And the best tool I can think of is *information*. Information that tells you what this industry is all about, and that helps you prepare for and execute the decisions that will ensure your future success.

But getting that information is hard work. And that's why our mission here at *NPN* this year will be to get you all of the useful and important information we can possibly assemble to help you succeed in 1992.

My personal choice for a fitting tag for 1992 is the "Year of Research." At the end of 1991, I set the wheels in motion for an intensified research effort here at *NPN*. The goal of this research program will be to provide you with a wide range of useful editorial information throughout 1992. There will be a new focus on in-depth analysis and statistical profiles relevant to the marketer/C-store business. *NPN* staffers will be looking closely at every aspect of petroleum/C-store operations.

As you can see from this month's cover, we have already kicked off this research program by conducting a profile of the marketers and C-store operators who read *NPN*.

This survey turned up some interesting data. In some areas, it accurately reflects the rough period that many marketers and C-store operators have been through. The survey also reveals that there are a lot of tough-minded entrepreneurs out there who are upbeat about their companies' future plans. In fact, even though there are some serious problems in the marketplace, many are faring pretty well under often trying circumstances.

One of the most intriguing aspects of the report is an indication that the distinction between "petroleum marketer" and "convenience store operator" is getting increasingly blurred—either that or a fair number of traditional oil jobbers are now masquerading as C-store operators. You see, we asked respondents to describe the primary type of business they were in: marketer (wholesale/retail) or C-store operator selling gasoline. Now, a small, but not insignificant number of respondents who checked the latter category provided additional information about their operations that would classify them, in many areas at least, as both C-store companies *and* full-line petroleum marketers.

Apparently, there is a new "hybrid" operator in our industry; one whose roots are in petroleum marketing, but who now is so heavily involved in C-stores that "C-store operator selling gasoline" is the first category that pops into his or her mind to describe the business. Definitions are important, but not always. What is important is to recognize how deeply entrenched marketers have become in the C-store business. And vice versa.

The type of statistical and operational data shown in this survey is only the beginning. I am excited about what lies ahead in 1992, not only for *NPN*, but for all of you.

I am convinced 1992 will be better than last year and I am determined to help each of you improve your bottom line. I am confident we have the editorial product that will help you achieve bigger and better things this year. So hold on to your hats.—*Peggy Smedley*

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January 1992 NPN **Vol. 84 No. 1**

FEATURES

30 **COVER REPORT**
Good News, Bad News: Marketers Hang Tough

36 **ENVIRONMENTAL**
What's Happening With Environmental Regs

40 **MANAGEMENT**
Internal C-Store Theft: Stopping the Profit Drain

44 **MARKETING**
Diversification Las Vegas Style: Lucky Seven Profit Centers in One

47 **RETURN ON INVESTMENT**
Playing the Numbers: How to Look at ROI

30

40

44

DEPARTMENTS

3 Editor's Viewpoint
7 Ahead of the News
8 Top of the News
9 Catching Up
10 Trends & Marketplace
12 Regions
19 News
50 About Oil People
53 Briefs
54 Product Showcase
66 Coming Meetings
69 Classified Advertising

COLUMNS

56 Operations Management—*Howard Upton*
58 Marketer's Tax Corner—*Irving L. Blackman*
60 Marketing Management—*Paul M. Forbes*
62 C-Store Opportunities—*Dave Benish*

• TRENDS

'92 May See Tough Times for Trade Assns.

This may be the year that the oil industry's trade associations—state, regional and national—feel the retrenchment heat like they never have before. Several that have been bumping their tails on the sidewalk in recent years might not be able to weather another year of declining memberships, poor cash flows and increasingly anemic budgets. For others, it could be a real struggle to meet payrolls and rental expenses. Don't count them out yet, however; associations have proved themselves amazingly resilient in staying alive. But the survival odds are getting tougher.

The issue, of course, isn't that the associations have outlived their usefulness or anything like that. It's simply a matter of money. Life is real and life is earnest, they say, and if marketer margins and volumes continue to be depressed, and the economy continues its wobbly way, only the healthiest and more ingenious associations out there are going to stay ahead of the money problems. A year or so ago, the Petroleum Marketers Assn. of America (PMAA) predicted that only half of the distributors now in business will still be around by the year 2000. Associations depend—not rely, depend—on new member enrollments to replace dropouts, mergers and business failures. If the population forecasts continue to be negative, where will the fresh money come from to keep things alive, let alone expand and take on new projects?

There's no lack of issues at home, in the state legislatures and the Congress itself. All of them are technically vital to the survival of gasoline wholesalers, retailers and fuel oil merchants.

What brings this to the fore, however, was the response of some participants in the recent American Petroleum Institute (API) and Society of Independent Gasoline Marketers of America (SIGMA) meetings in Houston.

API pulled about 2,000 registrants, SIGMA maybe 400 or so, including wives and other distaff members of the oil fraternity.

Not bad, some hallway observers noted, about par with the way things have been going in recent years. But compared with the so-called "good old days," absolutely pathetic.

Only the old timers will remember that API's annual meetings throughout most of the '50s officially registered as many as 7,800 to 8,000 attendees. Virtually all of the annual meetings at that time were held in Chicago because that was the only place that had enough big hotels to take care of the mobs of conventioneers. It used to be said that when API was in town, travelers couldn't get a decent hotel room within 50 miles of downtown. One reason for this was that many companies, chary of letting their stockholders realize how many expense accounts were involved in the API meetings, disguised their registration figures by permitting only certain personnel to sign in. Thus, there were many more than the registration totals indicated. Some people, at the time, guessed the number of oilmen in town for the sessions exceeded 10,000.

Another surprise of the times: Although the API sessions officially began on Sundays, big divisional committees presumably had so much to do that they had to open their talkathons on the Thursday preceding the aforesaid Sunday. General and divisional sessions continued through the week, ending at noon on Thursday. Still another eyebrow lifter: Chicago's airports had so many private (oil industry) planes parked for the duration that commercial flights had to take it easy getting in and out of the place.

In the early '60s, API's board itself mandated program cutbacks. In recent years, registrations have been around the 2,000 mark. In Houston in November, only a handful of early birds were around on Saturday and virtually everyone had gone home by Tuesday afternoon.

Another item of interest: even big names like former British Prime Minister Margaret Thatcher didn't generate big crowds as one might expect she would. The ballroom was only three-fourths to four-fifths filled when she made her general session speech.

This year could be interesting for all associations.

—By J. Richard Shaner

• MARKETPLACE AT A GLANCE

AVERAGE GASOLINE PRICES IN THE U.S. (per gal.)

OCTOBER	Gasoline (All types)	Leaded Regular	Unleaded Regular	Unleaded Premium
U.S. City Avg.	$1.180	*	$1.122	$1.307
Regions				
Northeast	1.271	*	1.191	1.402
North Central	1.143	*	1.105	1.271
South	1.170	*	1.099	1.275
West	1.159	*	1.118	1.297

** Data no longer collected or available.*
Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

STOCKS (Add 000 bbl.)

	11/29/91	11/30/90
Gasoline (Total)	206,543	221,100
Unleaded Gasoline (*)	165,721	171,347
Jet Kerosine	44,113	45,281
Distillates	140,053	132,850
Residual	49,119	51,202

(*) Leaded regular prices no longer collected by Bureau of Labor Statistics.
Source: American Petroleum Institute.

Good News, Bad News: Marketers Hang Tough

Not many petroleum marketers and convenience store operators who sell gasoline would look back at the past year or so with any degree of fond recall. It has been a rough period for most, with "price inversions" at times making mincemeat out of gasoline margins, with the recession undermining consumer demand and with the continuing onslaught of environmental regulations taking their toll on the cash reserves of marketers just about everywhere.

A rather grim picture, one might say. But then, petroleum marketers and convenience store operators have been through turbulent times before — and survived. In addition, based on the picture that emerges from *NPN*'s just-completed survey, petroleum marketers and convenience store executives are more upbeat than gloomy about their firms' prospects.

The data in the survey, compiled from many hundreds of responses from *NPN* marketer and C-store readers around the country, indicate that while there are still problems the majority of the companies surveyed are faring pretty well in today's marketplace. And many are looking towards better things ahead.

For example, many of the marketer and C-store executives have expectations of improved sales and margins in the year ahead. And, at least one-third of the survey respondents plan to expand their retail holdings in 1992.

Other highlights of the survey:

- The majority of petroleum marketer respondents now operate convenience stores.
- Marketers and C-store operators both average 8¢/gal. gross margin on gasoline sales.
- The typical marketer in the survey sells 20-million gal. of motor fuel per year, including diesel. C-store operators average 25-million-gal. in sales annually.
- The average marketer respondent has 47 full-time and part-time employees, while C-store firms have 72 full-time and part-time people on their payrolls.
- Nine out of 10 marketers operate their own product delivery trucks, but only one-third of C-store operations have their own fleets.

Survey objective

The goal of this survey was to develop information on the operations and activities of petroleum marketers and C-store companies which own, operate or lease retail and/or wholesale motor fuel facilities.

The completed survey includes the usable responses from 743 marketer and C-store company subscribers out of a total of slightly more than 2,400 questionnaires mailed out to *NPN* readers. The mailing took place in September last year, and the cutoff for responses was mid-October. Questionnaire processing and tabulation was handled by a research and tabulating firm in the suburbs of Chicago.

While the response rate of 31% is considered excellent by any normal measure of random sampling, this survey is not to be viewed as projectible over *NPN's* entire subscriber list. Major oil company and independent refiner subscibers, for example, were excluded from the questionnaire mailing to maintain the sampling focus on marketer and C-store company operations. The editors are confident the data generated by the survey responses reflect the entire petroleum/C-store reader base.

The charts and tables in this report highlight just about all of the major data gleaned from the survey responses. On several of the questions, for obvious reasons, the response rate did not total 100%, and in somes cases, where multiple answers were indicated, exceeded that percentage. Where the response rate for a specific question has a bearing on the information, it is indicated in the appropriate chart.

Message from the top

Almost nine out of 10 of the survey respondents are chief executives or chief operating officers with their firms—the folks who make the key decisions on policy, people, purchasing and investments, expansion and acquisitions (or retrenchment) and marketing programs and pricing.

Breaking out the titles of the individuals responding to the survey indicates that half are company owners or co-owners, 36% are company presidents, 9% list themselves as chief executive or chief operating officers (CEO/COO) and 11% identify themselves as marketing executives and others. The figures add up more than 100% since some respondents checked off more than one title, such as "president and CEO."

The average petroleum marketer in the survey has 28 full-time employees and convenience store companies employ an average of 37 full-timers. What's interesting here is the average number of part-time employees: 19 for marketers (40% of total payroll employees) and 35 for C-store operators (almost half of the total). This indicates a heavy reliance on part-time help in key operating positions such as store clerk, driver, office clerk, bookkeeper, etc.

Where marketers get product

Major refiners, as might be expected, are the primary gasoline supplier for both marketers and C-store respondents who sell gasoline. More than two-thirds (71%) of reporting marketer firms obtain gasoline supplies from major oil companies, 25% get product from independent refineries and 30% access a variety of other sources. (These percentages add up to more than 100% because many marketers source their gasoline and other fuels from different suppliers.)

Almost three out of five (58%) of C-store operators are supplied by major refineries, 24% are supplied by independents and 36% purchase product from other sources. Larger marketers and C-store firms—those selling more than 15-million gal./yr.—generally buy most of their gasoline, upwards of 80%, from the majors.

As for automotive diesel fuel, 96% of the surveyed marketers handle this product and 68% of these rely on major refineries for their supplies. But only 52% of those C-store operators who also sell diesel (80% of the total) rely on major-supplied product.

Major companies supplied 65% of the marketers who reported selling distillates or heating oil, while independents supplied 28%. In the C-store category, 56% of the firms obtained distillates from major suppliers, and 21% sourced independent refiners. Among the marketer companies responding, 87% say they sell distillates. However, less than half, or 46% of the C-store firms responding to the survey, report selling distillate fuels.

A much lower percentage of marketers and C-store firms are involved in the residual fuel market. Only 36% of marketers (55% supplied by majors) and 21% of C-store companies (48% major supplied) handle residual.

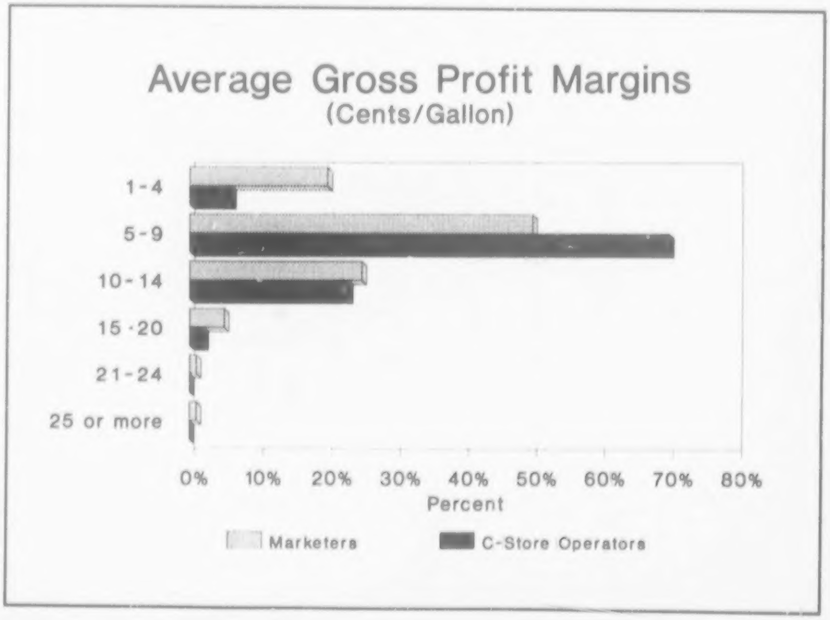
Motor fuel sales

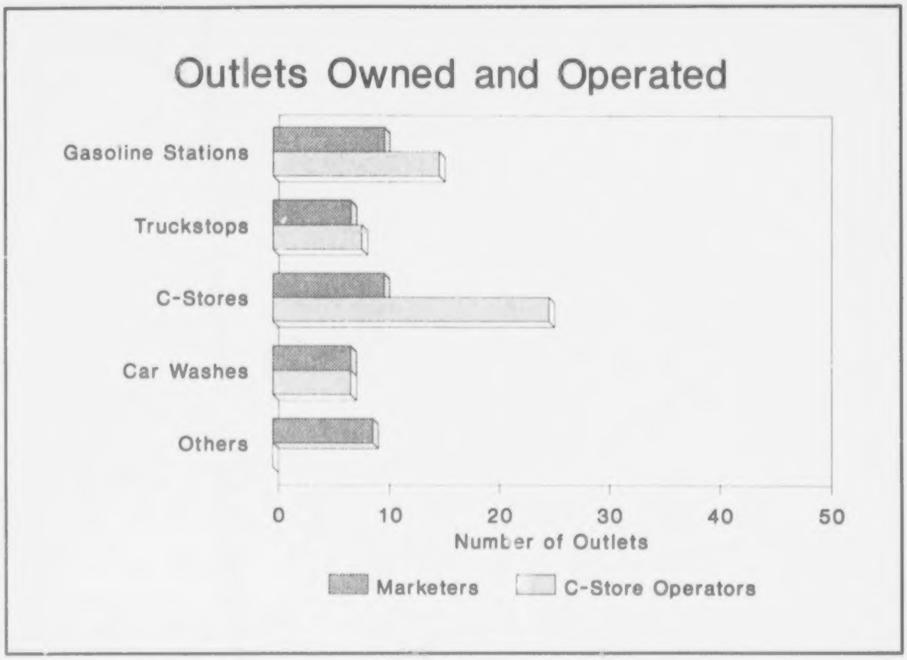
In 1991, the average petroleum marketer anticipated sales by year-end of 12-million gal. of gasoline and another 8-million gal. of automotive diesel fuel. This puts marketers' total average motor fuel sales for 1991 at the 20-million gal. level for this survey. For the same period, C-store operators were projecting sales of 17-million gal. of gasoline and 8-million gal. of diesel, for a total throughput of 25-million gal. of motor fuel.

Two out of five (43%) marketers and 46% of C-store firms fall into the lowest range, or under 5-million gal./yr. in annual gasoline sales. This data corroborates the general industry assumption that a high percentage of petroleum/C-store firms are truly small businesses. Still, a substantial number of respondent companies, about 15% of the total, are good-sized gasoline marketers with annual throughputs of 25-million gal. and more.

As for automotive diesel fuel, 71% of marketers and 66% of C-store firms expected sales of 1-million to 5-million gal. in 1991.

On the whole, both marketers and C-store operators are upbeat about the prospects for gasoline sales in 1992.



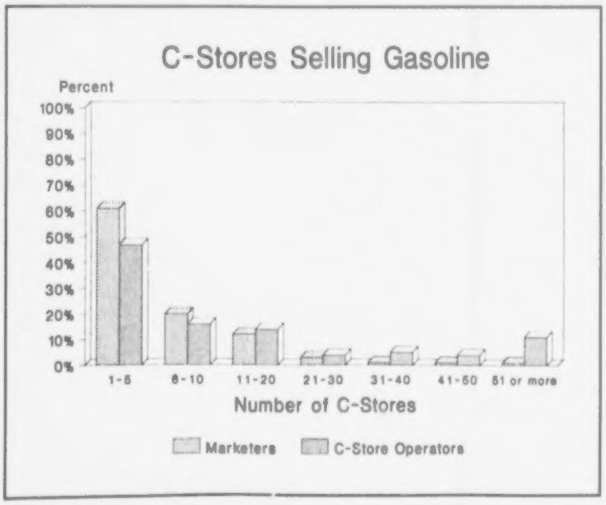


Two-thirds (66%) of the responding marketer firms say they anticipate selling more motor fuel in the year ahead. And 78% of the C-store firms selling gasoline also say they expect to increase gasoline throughputs in 1992.

Motor fuel sales increases are forecast by a majority of marketers and C-store firms in all size categories, from those in the 1-million to 5-million gal./yr. range to those with annual sales of more than 100-million gal.

The projected increases are more than just a trickle, too. A little over half (51%) of the marketers and C-store operators (52%) who forecast higher gallonages in 1992 say they expect increases in the 5-10% range, and 18% of marketers and 17% of the C-store group anticipated bigger increases than that, from 11% up to 20% and higher.

However, there are those who anticipate declining fuel sales, too. About one-third (33%) of petroleum marketers believe their motor fuel sales will decline this coming year, but only one out of five (19%) of the convenience store chains selling gasoline foresee a dropoff in sales in 1992. To a moderate degree, more smaller firms expect fuel sales declines than larger companies. About 40% of the marketers and 63% of the C-store chains expecting lower fuel sales forecast a decline of less than 5%.



Margins tight

Gross profits at the pump are not yet what most marketers and C-store operators would like them to be, but for many they aren't so bad either, according to the data supplied by *NPN*'s survey respondents.

Across the board, petroleum marketers and C-store companies report operating on an average rack to retail margin of 8¢/gal. But all companies aren't average, of course. One in five (20%) marketers, but only 6% of C-store firms, are operating in a very marginal and often brutally competitive zone of gasoline profitability, with margins in the 1-4¢/gal. range.

Half of the marketers (50%) and 70% of C-store chains reported average gross profitability in the 5-9¢/gal. range. One out of four marketers (25%) and 23% of C-store operators had margins in a range of 10-14%. One marketer averages 21-24¢/gal. gross profit and two other respondents say they were getting more than 25¢/gal. Were these last two marketers sacrificing volume for margins? Perhaps. But one of the two also reports annual gallonage in the 20-million to 25-million/gal. range, pretty good throughput for a high-margin marketer.

How many outlets

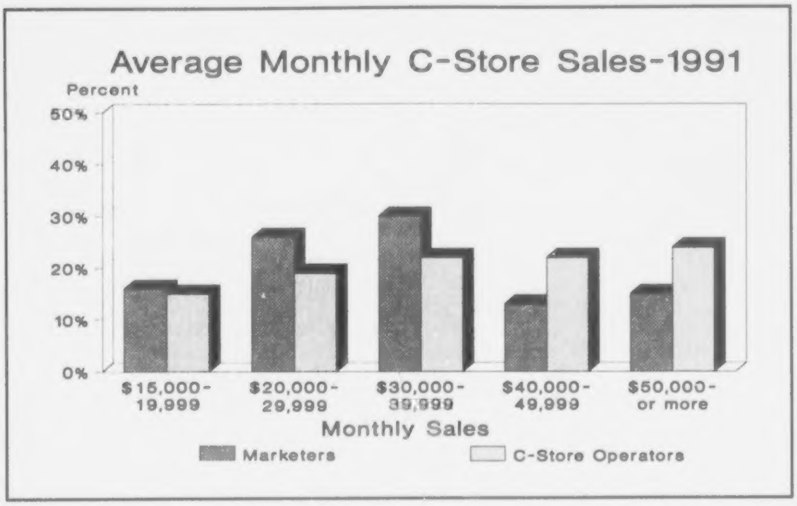
Marketer companies which have their own gasoline stations each report owning and operating 10 such facilities. Marketers with truckstops own an average of eight units. Those which own and operate convenience stores also report having 10 each. Marketing firms which also operate car washes, a relatively small sampling in *NPN's* survey, have an average of 8 units.

The typical convenience store respondent in the survey owns and operates 25 C-stores.

Marketer companies which lease gasoline stations to dealers have an average of 10 leased units under their wing. However, it should be noted that only 25% of the responding marketers actually reported leasing stations to dealers. The number of marketers leasing out C-stores to independent operators was also small, only 13% of respondents. The average number of leased C-stores per company was 11.

Only 10% of the responding C-store companies lease stores to independent operators. However, the average number of leased units is pretty high, about 25 per company.

It may not be the best of times in the petroleum/C-store industry, but a fair number of marketers say they have plans



to expand their retail operations in 1992.

Three out of 10 marketers (30%) say they plan to increase the number of retail outlets they own in 1992. A substantial percentage of C-store companies (36%) also will be adding to their store counts in 1992. On the whole, a higher percentage of the larger companies compared to smaller jobbers indicate plans to add outlets during the year. For example, 15 out of 20 firms selling 50-million to 99.9-million gal./yr.—that's 75% of the respondents in this group—say they would add outlets. More than one-third (35%) of the 5-million to 9.9-million gal./yr. companies (45 total) and 45% of those in the 10-million to 14.9-million gal. group (39 firms) also plan to boost their outlet counts.

On average, petroleum marketers who have plans to expand in 1992 anticipate adding 3.5 outlets, while C-store firms say they will add 4.3 outlets.

Some companies in the survey expect to downsize their retail operations this year. However, the number of firms anticipating a decrease in their outlet counts is much less than the number of companies planning to expand. Only 88 out of 467 marketers (19%) responding to this question plan to close or otherwise dispose of retail properties in 1992. These marketers say they will trim down by an average of 3.4 outlets.

Nine out of 94 C-store firms, less than 10% of the total, say they expect to lower their outlet counts in 1992, by an average of three stores per company.

It may come as a surprise to some industry observers, but many petroleum marketers have maintained a presence in TBA and automotive service at some of their retail outlets. *NPN's* survey found almost two-thirds of marketers—367 out of 557 firms—responding to the question "How many of your outlets have service bays?" affirm they have outlets with bays. The average number of stations with bays per company is six. Most of these marketers (77%) have between one and five service outlets, but 42 have more than 11 such outlets, including 24 companies with more than 21 units with bays.

The C-store connection

These days, most traditional petroleum jobbers are firmly staked out in the convenience stores business.

Three out of five marketers in the survey—336 firms out of 557—report operating convenience stores. The average is six C-stores per company. About 70% of the companies have between one and five stores, 18% operate between six and 10 stores and 12% have more than 11 stores. The average number of stores operated by the reporting C-store firms is 17.

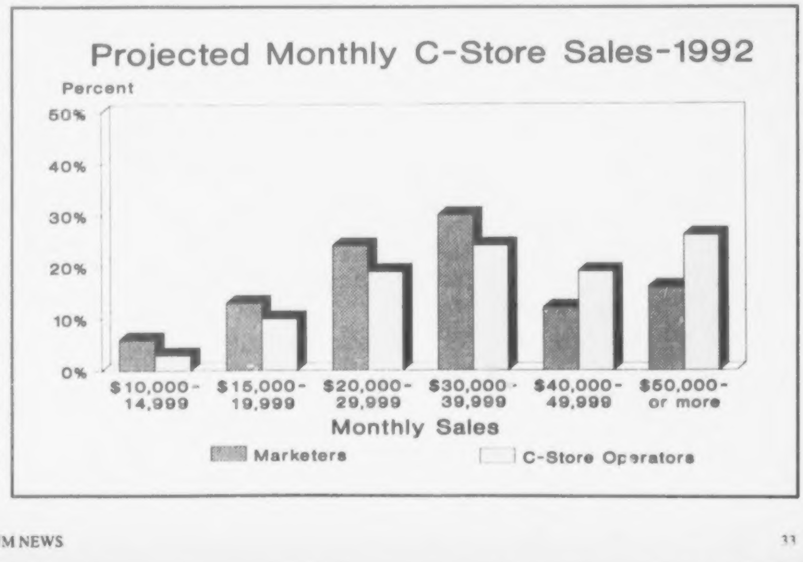
The average size of a marketer-operated C-store is 1,831-sq.ft. The typical store operated by a C-store firm is very close in size, at 1,858-sq.ft., to the average marketer outlet. Stores for both groups run to the larger sizes; only 16% of marketer units and 18% of C-store company outlets are under 1,000-sq.ft. As shown in the accompanying chart, the bulk of stores fall into the 1,000 to 2,400-sq.ft. size category. One out of five C-store company outlets and 16% of marketer stores are 2,400-sq ft. to 3,000-sq.ft.

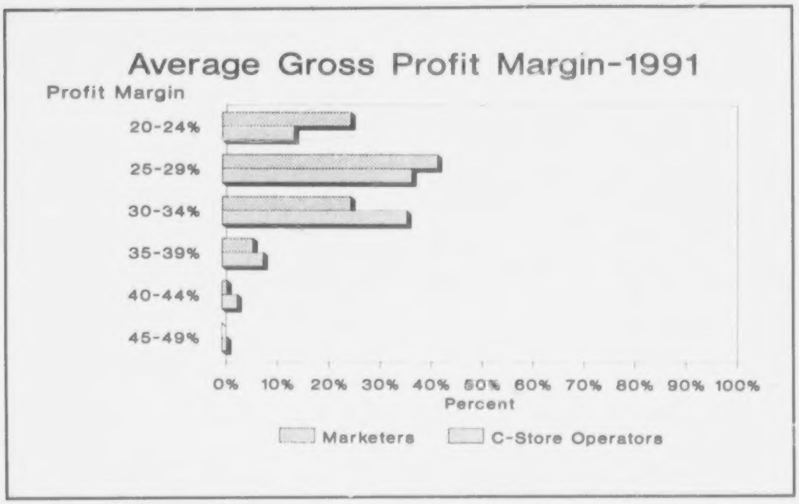
C-store merchandise sales are doing pretty well, too. In 1991, C-stores operated by petroleum marketers had average monthly sales of $36,800, excluding gasoline. Stores operated by C-store firms had monthly merchandise sales of $42,100. Almost one in six marketers (15%) and one in four C-store companies (24%) had average monthly store sales in excess of $50,000.

Respondent firms don't expect much change in merchandise sales in 1992. C-store firms expect a slight increase in monthly store sales—to $42,800—in 1992. Marketer firms, on average, expect monthly sales to be $36,900, about the same as in 1991.

C-store companies do slightly better on average gross profit margins on merchandise sales than petroleum marketers. The average gross margin reported by C-store operators in 1991 was 29.5%, compared to 27.9% for marketers.

While one in four marketers (24.4%) had margins in the lower 20-24% bracket, only one in seven convenience store firms (14.4%) had margins in that range. Also, 36.5% of the reporting C-store firms had margins in the above average 30-34% range, in comparison to 24.6% of





marketers in that same range.

Three out of 10 marketers (30%) and 37% of C-store operators expect improvements in store profit margins in 1992. The 102 marketing firms predicting higher margins in *NPN's* sampling expect an average increase of 4.8%. For 38 responding C-store companies, the anticipated average increase is 3.8%.

Trucks

The company-owned truck is still the mainstay of marketer fuel delivery operations, but much less so for C-store/gasoline operators. Almost nine out of 10 marketer firms (87.8%) operate their own fleet of trucks. However, only one-third of C-store firms (33.3%) report operating their own trucks.

On the other hand, use of hired transport equipment is common among C-store firms, with 63 out of 91 respondent companies (69.2%) indicating they use common carriers to deliver product. And, though most marketers have their own truck fleets, almost seven out of 10 also use common carriers for their transportation needs.

The average marketer operates 8.1 trucks. At the low end, 112 marketers (24% of the total response group) own between one and three trucks, and at the high end, 51 companies (11%) operate more than 20 trucks. The typical C-store chain operates 6.6 trucks.

On the question of type of fleet operated, 93% of the marketers say they have tank trucks, 62% have tank trailers and 59% have truck tractors. These percentages add up to well over 100% since many marketers operate different types of rolling equipment. In the smaller C-store sampling, about 46% of respondents say they have tank trucks, 61% operate tank trailers and 61% have truck tractors.

The typical marketer uses an average of 3.4 trucks for gasoline deliveries, 4.1 units for distillate deliveries and 4.5 trucks to haul residual fuel.

Company-operated bulk fuel storage facilities are still popular with, or at least utilized by, most petroleum marketers. More than four out of five marketer firms (83%) operate bulk plants for product storage. However, C-store chains selling motor fuel maintain much fewer bulk storage facilities, with only 18.3% of the respondents in this group indicating they have bulk plants.

Most of the marketers and C-store operators in the survey indicate they have been upgrading and modernizing their retail facilities in the past two years. In that time frame, 90% of marketers and 80% of C-store firms which responded have purchased gasoline and diesel fuel dispensers. A high percentage of companies have also been investing in underground tanks and piping, electronic POS (cash registers, card readers, etc.) and the like in that period.

Petroleum equipment distributors remain the solid first choice of marketers (91%) and C-store firms (81%) as equipment suppliers.

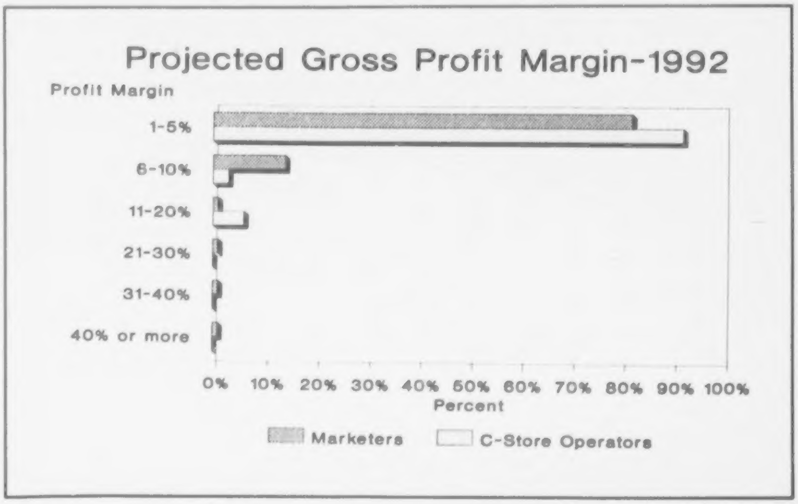
How readers rate *NPN*

The editors asked readers to indicate those issues and topics they were most interested in reading about in 1992. There were no surprises here: environmental issues and regulations, closely followed by convenience store operations, were the top two choices. Other areas of interest included economic and financial issues, market competitions, reformulated fuels and legal and legislative issues.

Rating the magazine's monthly departments, readers gave high marks to just about all of *NPN*'s regular monthly features and columns. As might be expected, the highest rated departments are the magazine's "Green Pages" (Ahead of the News, Trends, etc.) and General News section. However, other departments also score highly in the "read with interest" measurement.

Marketer companies and C-store firms average nearly two paid subscriptions per company to *NPN*. However, the magazine has a much broader readership base than the simple subscription numbers. In addition to being read by the primary subscribers, the survey found that the magazine is passed along to more than two additional executives or key staffers in the firm.

NPN editors are planning to conduct this marketers and C-Store operator research every two years in an attempt to compare current statistical results with future developments within the petroleum industry.



February 1992

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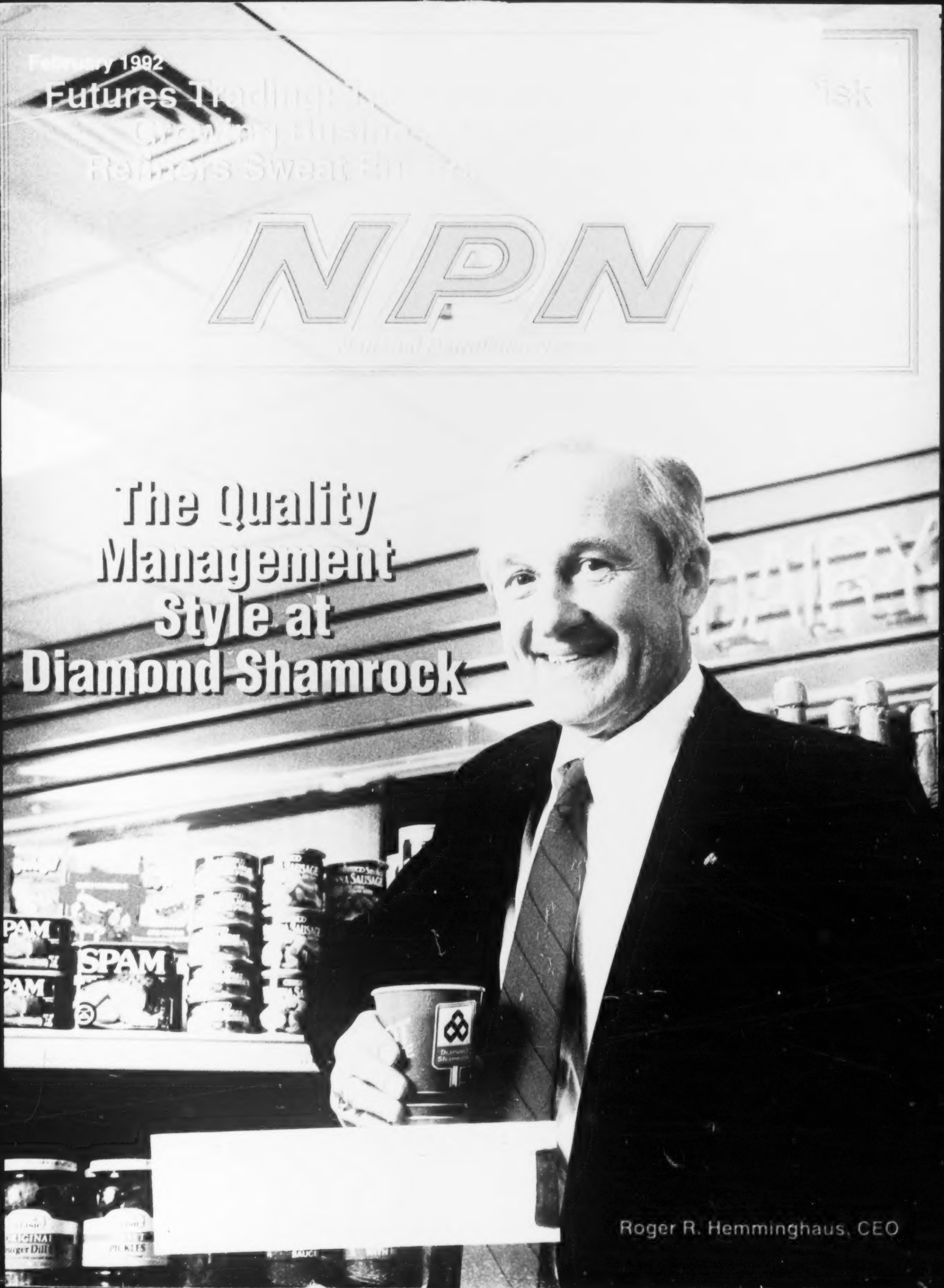
NPN

National Petroleum News



The Quality Management Style at Diamond Shamrock

Roger R. Hemminghaus, CEO

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Editor's Viewpoint

Looking at the new photograph above, you may already have guessed there's been a change in the editorial staffing at *NPN*.

A few weeks ago, Peggy Smedley, editorial director of Hunter Publishing Co.'s petroleum division and editor in chief of *NPN*, accepted a position with another publishing company. Peggy assures us she made this decision only after many painstaking hours of deliberation with her family.

It was a sad moment—for myself, for the entire staff of *NPN* and for the petroleum division—as well as for her many friends and colleagues here at Hunter. I'm also certain that many of you in the industry who got to know Peggy personally and were impressed—as we were—by her driving energy, enthusiasm and dedication, share our regret and join us in wishing her the best of fortune in her new job.

Change often embodies both gain and loss. And, while *NPN* has lost a valued editorial talent, I can assure you that the *NPN* tradition of editorial quality and leadership that has been our trademark for over 80 years will continue without missing a beat.

There are good reasons for this. The *NPN* staff of editors and reporters is the most talented and experienced in the petroleum industry today. This includes our able and knowledgeable field staff: Dick Shaner in the East, Mark Emond in the West and Angel Abcede covering the South. Here at the home office Steve Dwyer, Midwest reporter, Greg Lindenberg, copy editor and Alicia Lasek, newly promoted to staff reporter, epitomize the best in industry journalism, combining commitment, experience and energy. On the production side, senior production editor Julie McDonough (another recent promotion) is responsible for many of the improvements in graphics and design you have seen as you flip through the pages of *NPN* every month.

We have also strengthed the overall management of our news and feature operation with the addition of Howard Shingle as *NPN's* new managing editor. As a former staff reporter and current editor of our two sister publications, *Fuel Oil News* and *Petroleum/C-Store Products*, Howard brings experience and outstanding organizational ability to his new assignment.

My own background at Hunter includes 10 years as editor of another sister publication, *Service Station Management*, and six years as senior editor of *NPN*. As many of you know, in addition to my monthly assignments as a news and feature writer and editor, I have been supervising the annual production of our *NPN Factbook*.

Before Peggy left, she and the entire staff of *NPN* mapped out and set in motion an editorial plan for 1992 that is consistent with the magazine's tradition of first-rate news reporting, research and analysis. We'll also be breaking new ground this year with editorial features and indepth research that will focus on the trends and developments that are shaping our marketplace in the year—and years—ahead.

We're counting on your continued support, as well as your frank appraisals of our efforts, to help us keep *NPN* as fresh, as informative and as useful in your day-to-day operations as it has been for the past 83 years.

—Don Smith

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NPN

FEATURES

32 **COVER REPORT**
Diamond Shamrock's management style gets 'quality' results

37 **MANAGEMENT**
Futures trading: The fine art of managing risk

42 **OPERATIONS & EQUIPMENT**
Diesel fuel additives: Growing business for marketers

POS HANDBOOK
(Special pullout supplement follows page 36)

32

37

DEPARTMENTS

3 Editor's Viewpoint
7 Ahead of the News
8 Top of the News
9 Catching Up
10 Trends & Marketplace
14 Regions
25 News
46 About Oil People
52 Briefs
54 Product Showcase
66 Letters
67 Coming Meetings
69 Classified Advertising

PREMIUM DIESEL
GALLONS
GALLONS
DIESEL

42

COLUMNS

56 Operations Management—*Howard Upton*
58 Legal Tips for Marketers—*Sam Borenkind*
60 Marketer's Tax Corner—*Irving L. Blackman*
62 Marketing Management—*Paul M. Forbes*
64 C-Store Opportunities—*Coney Elliott*

• TRENDS

Is Bioremediation the Answer to Soil Cleanups?

The cleanup of a leaking underground storage tank can be a horror, imagined and real for petroleum marketers. Costs can be critical or fatal and no doubt haunt many marketers' nightmares.

Most cleanup methods are based on removing the contaminant, usually gasoline, physically. The bad soil is hauled away or the contaminant is mechanically extracted, onsite or elsewhere, often by evaporation.

With bioremediation, microorganisms in the soil or water onsite literally eat the contaminant and break it down into its constituent elements. As applied to ground contamination, it's a rapidly developing science that appears to be very promising.

The Petroleum Equipment Institute (PEI) reports that interest in bioremediation among its members is growing. Says Robert N. Renkes, executive vice president, in his *TulsaLetter*, "The Environmental Protection Agency (EPA), PEI members and tank owners are searching for faster and less-expensive ways to achieve the cleanup goals while protecting the environment and public health at the same time. Some think bioremediation may be the answer for solving some of our contamination problems."

EPA recently reported 108,821 confirmed tank releases in the United States, but only 21,278 cleanups completed. The agency says further that leaks are being confirmed more frequently than cleanups are being accomplished, widening the gap and worsening the problem.

The effectiveness of bioremediation has been demonstrated in what an engineer for California's Regional Water Quality Control Board calls "the granddaddy of all bioremediation projects." At a former 40-acre, 50-year-old Unocal tank farm near Torrance, Calif., more than 300,000-cu.yd. of soil, enough to cover 57 football fields with dirt 3-ft. deep, was cleaned by bioremediation. The site is being redeveloped into a shopping center and light industrial park.

The project was accomplished by ECOVA Corp., an onsite hazardous waste management company headquartered in Redmond, Wash. The company, founded in 1986, says it is responsible for cleaning up more than 500,000-cu.yd. of soil and millions of gallons of water using bioremediation processes.

At the abandoned tank farm, a proprietary process was used to reduce petroleum contamination by up to 94%, the company says, from levels as high as 15,000-ppm (parts per million) to average levels below 1,000-ppm.

Soils beneath the former reservoir berm and under a concrete reservoir liner at the tank farm contained nonhazardous petroleum hydrocarbons, such as bunker C fuel oils. Unocal funded the cleanup at a cost of $45/cu.yd., or about $13.5-million, ECOVA reports.

ECOVA says offsite disposal to a landfill would have cost between $60 and $300/cu.yd. The enormous volume of soil would have required more than 50,000 trucks to transport the contaminated soil to a landfill.

To carry out the cleanup expeditiously, a mobile laboratory was transported to the site to provide rapid analytical results and biological monitoring, and 27 treatment units were set up at various onsite locations. Engineers determined the proper oxygen, water and nutrient additions to support a nine to 12-week treatment time. More than 35,000 soil samples were analyzed.

ECOVA engineers identified the presence of a dominant organism possessing the ability to metabolize a wide range of hydrocarbon compounds. The activities of this organism were closely monitored during the remedial program to ensure its effectiveness.

The customer was happy. John Murphy, president of Unocal's Land & Development Co., says, "They [ECOVA] saved us tremendous costs which would have been necessary with the use of conventional technologies and an offsite laboratory."

Necessity being the mother of invention, bioremediation could turn out to be the solution, or at least an important option, to what seems like an almost insurmountable hydrocarbon cleanup problem, and a lifesaver for many marketers. *—By Mark Emond*

• MARKETPLACE AT A GLANCE

AVERAGE GASOLINE PRICES IN THE U.S. (per gal.)

NOVEMBER	Gasoline (All types)	Leaded Regular	Unleaded Regular	Unleaded Premium
U.S. City Avg.	$1.193	*	$1.134	$1.318
Regions				
Northeast	1.271	*	1.192	1.403
North Central	1.171	*	1.134	1.295
South	1.181	*	1.110	1.286
West	1.162	*	1.121	1.297

* *Data no longer collected or available.*

Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

STOCKS (Add 000 bbl.)

	1/3/92	1/4/91
Gasoline (Total) [a]	187,735	190,370
Unleaded	156,293	154,570
Jet Kerosine	38,128	38,394
Distillates	131,311	117,324
Residual	41,594	42,746

[a] *Leaded regular prices no longer collected by Bureau of Labor Statistics.*

Diesel Fuel Additives: Growing Business for Petroleum Marketers

While refiners await the onset of environmental regs requiring them to upgrade diesel fuel, many oil marketers and additive manufacturers and blenders are developing their own markets for home-brewed premium diesel fuels. Refiners for the most part do not seem to have gotten the message as of yet.

The market for diesel fuel additives added downstream, that is, after the fuel leaves the refinery or pipeline, is estimated to be in the range of $75-million to $100-million annually and growing 25%/yr. for the past four or five years. A new diesel additive supplier reports tripling sales for the past three years.

Some agricultural cooperatives have long produced premium diesel to provide their customers a product most refiners don't generally supply. Among them are Cenex and Farmland. More recently, some truckstop chains appear to have been among the first to recognize the value of diesel fuel additives to their trucker customers. Some national chains that now provide premium diesel are Burns Bros., Flying J and Petro.

Most refiners continue to provide only a generic, regular-grade diesel fuel, a fungible commodity, apparently convinced they can't recover the costs of premium diesel in the cost-conscious trucker market. (For a report on big changes coming in the diesel fuel market, including refinery-made premium diesel, see *NPN*—Sept. '91, p71.) Almost the only existing diesel fuel standards are imposed by pipelines.

Refiners lavish increasing attention on premium gasolines, and their neglect of diesel fuel grows apace. Diesel fuel often bears the brunt of strains put on the refining processes by more-intensive gasoline production. Cracked diesel fuels are unstable, corrosive and high in polluting aromatics. Diesel fuel is what's left over after refiners make gasoline. Other distillates, such as jet fuel and heating oil, command higher prices.

By Mark Emond
Staff Reporter

One additive blender says the winter diesel additive market is "exploding." One reason: the proper additive eliminates or reduces the use of higher-priced kerosine.

It is perhaps understandable that refiners concentrate on gasoline when sales outstrip those of diesel fuel more than five to one. On-road diesel fuel sales amounted to 21.4-billion gal. in the United States in 1990 (see chart on page 44), compared with consumption of 111-billion gal. of gasoline. Off-highway diesel sales were another 1.8-billion gal.

There are widespread reports of diesel fuels of dubious quality, particularly in winter when fuels gel and freeze. Fuel filters clog. Injectors plug up. Some companies still treat diesel fuel and heating oil as pretty much the same thing. These are all opportunities for marketers.

Marketers are learning that for almost every diesel fuel problem, there is an additive solution. In the vacuum created by refiners, they are taking the initiative, encouraged by additive suppliers, to provide their customers with a large variety of premium products designed to overcome the common failings of undoctored fuels.

Many additives to sell

In four major groups, there are 15 to 20 classes of diesel fuel additives, as follows:

- Contamination control—biocides, demulsifiers and dehazers, rust and corrosion inhibitors.
- Fuel stability—metal detectors, oxidation inhibitors, residue dispersants.
- Engine performance—detergents, dispersants, cetane improvers, smoke suppressants.
- Fuel handling—Pour-point depressants, cloud-point depressants, deicers, degummers, antifoamers.

These are recognized and technically sound additives. However, certain claims sometimes made for particular products, especially those sold over the counter in cans or bottles, stretch credulity.

Diesel fuel additives have been saddled with a bad name, but this is turning around. Trustworthy marketers and blenders supply products that live up to their billings, and they stand behind them with laboratory tests corroborating their claims.

Diesel fleets are the prime customers. There are commercial truckers, municipalities, transit authorities, airlines, taxis, utilities, military and marinas. Some diesel-fuel additive suppliers market directly to fleets, particularly the national ones. However, marketers who know their local customers are usually in a better position to blend the products and make the sales.

Some diesel fuels are sold all year round. They contain cetane improvers, detergents and other additives that can improve mileage and maintain cleaner engines.

But most diesel additives are sold in the winter to lower the pour point in cold weather, preventing icing and wax gumming. Traditionally this has been done by blending No. 1 diesel (kerojet) with No. 2 diesel. Various mixes are used, such as 50-50 and 70-30 of No. 2 and No. 1. Now additives can reduce or eliminate the No. 1 at a considerable saving.

No. 1 is more expensive, often 10¢-20¢/gal. or more. Savings on the costs of No. 1 easily offset the "treat" cost of the additive, which ranges from less than 1¢/gal. to 2¢/gal. Kerosine also has less heat per gal. in British thermal units (Btu), so that the more No. 2 is burned, the more mileage is obtained.

Estimates of the proportion of additized diesel sold in the winter in northern states vary from one-fourth to one-half. In the summer, only 5-10% is additized, some say. Whatever the actual sales may be, the market has great additional potential. The effectiveness of diesel additives is getting around, and they are reported to be increasingly selling themselves.

For additive suppliers, the big sales months are September, October and November, with marketers laying in supplies for the winter, and, to a lesser extent, February, March and April, with marketers getting ready to supply agricultural customers for spring planting. Extended payment is sometimes provided.

Major additive manufacturers mentioned in the trade are Lubrizol, Ethyl, Esso Chemical and Malco. Additive blenders mentioned are ValvTect, Starreon, Arol Chemical Products, Power Service, Primrose Oil and Howes Premium. All are reported to sell through marketers, and most also sell direct to end users.

Rad Oil's experience

One satisfied marketer of diesel additives is Rad Oil Co., Purchase, N.Y., which distributes petroleum products to customers and other distributors throughout the Northeast, concentrated within a 150-mile radius of New York City.

Vice president Steven Levy remembers several years ago when premium diesel was mixed up by users in their garages. He says, "We needed a product that I knew worked. I knew Jerry [Nessenson, now president of ValvTect] from another company he was working for [Bell Fuels, Chicago], and when he organized ValvTect, that was enough for me. We tried out the diesel additives and the customers loved them."

Levy explains, "We promote diesel additives as much as we can. At least we give customers an option to be aware of if they're looking to save some money or do something different. There are a lot of products to choose from. They have to find the one that works for them."

Rad Oil markets everything from a straight No. 1 kerojet to straight D2 diesel and all blends between, with and without additives. Additives are growing more important. "Over the past several years," says Levy, "people are more concerned about the environment, about winter effects on fuel, about the effects of a more poorly made grade of fuel refined throughout the world. What we have done is market products for many different uses depending on the customer.

"Each customer is different; each wants different results from the products they buy. In our particular instance, we are a niche marketer—we are one of the largest commercial motor fuel marketers in the country. We believe in looking for ways to save our customers money and improve their efficiency so we can keep them in business and be our customers down the road," he says.

Customers are swinging back to quality. "There's been a definite change in attitude. Twenty years ago, people really cared about quality and the efficiency of the product, but in recent years all they want is lower price. Now, with the economy what it is and the cost of equipment, people are putting more emphasis on value and quality because they know in the long run it's going to save them money," he says.

Levy says about half of the company's diesel fuel is additized in winter. In summer, it is 5-8%. He adds, "Four or five years ago it would have been zero percent."

He figures treat cost in the winter is less than 1¢/gal., just for the winterizing. With detergency and the rest, the year-round treat cost is up to 2¢/gal. plus.

Levy says he can't always recover the additive cost, but he tries. He explains, "You have to get the additive cost someplace. You try to get it into the price if you can. If you can't, you can't. In this marketplace, prices are so competitive. It all depends on the type of customer you're selling to. In most instances, obviously, it's added to the price."

Whether or not Rad Oil can recover the additive costs, Levy believes that they help the business, particularly in rack sales. He explains, "We are also a rack seller of diesel fuel. We sell to people who have throughputs and exchanges in our system. We have to make sure we give them a product that's going to survive in the wintertime. A lot of these people don't care what the quality of the product is. They just want a product that is going to work in the wintertime. If you don't have that product, they are not going to buy from you. And your prices have to be competitive."

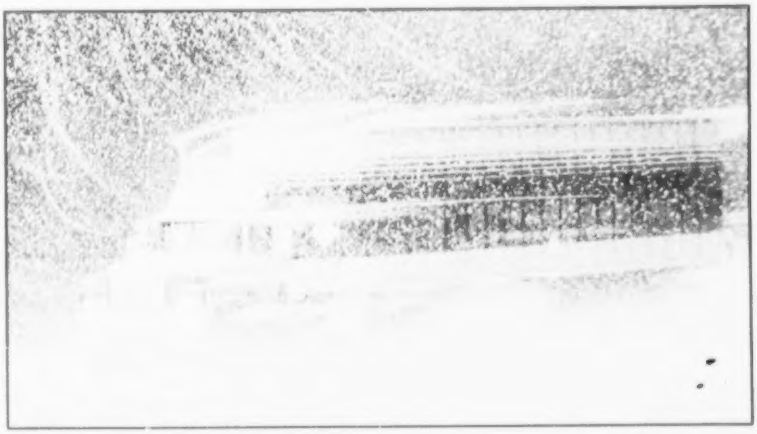
Besides regular diesel, Levy markets a basic premium diesel and also various premium diesels with certain additives by name, such as premium diesel with VT5000 (detergent, dispersant). The additive supplier provides the literature to explain what the products do.

What Zimmer Oil does

Zimmer Oil Co., Omaha, Neb., sells 5-million to 6-million gal. of diesel fuel a year, of which 20-25% is additized in winter and 10% in summer, says Jack Zimmer, one of founder Ray's two sons in the business.

Zimmer's principal business is supplying its 24 stations Conoco, Apco and Union 76 brands. The company uses diesel fuel additives for its own trucks and also sells it to trucking and construction accounts.

Zimmer reports there's been a call for additives, especially in winter, for perhaps 10 years. The first supplier to call on him was Primrose Oil Co., Dallas, but a year or so ago Zimmer Oil switched to ValvTect



Because of widespread reports of regular-grade diesel of unstable quality, cold weather protection with additives is becoming a must for over-the-road equipment. (Courtesy ValvTect)

in Northbrook, Ill., which Jack says has "a better overall program."

Zimmer Oil will sell diesel additives in 55 gal. drums, if that's the way customers want it, at about 1.8¢/gal. If the oil company blends it with diesel fuel, it generally charges about 2¢/gal.

Zimmer says there's not much markup on diesel additives because of competition. He mentions as a case in point Power Service (PS), Weatherford, Tex., perhaps the largest supplier of retail packaged diesel additives in the country. Most PS additives are purchased at truckstops by truckers.

Zimmer still blends No. 1 into No. 2 in the winter, even when using the additive, and isn't convinced it can ever completely be eliminated. "When it's real cold, there's no way you can use an additive and straight No. 2," he says.

Zimmer usually adds 30% No. 1, and in the dead of winter cuts it to 20% with VT5000 additive, lowering cold-filter plug point (CFPP, see below) to around -20°F.

Zimmer thinks his customers wouldn't let him eliminate No. 1 completely. He says laboratory results using VT5000 show a -10 CFPP, adding, "That's not good enough for this part of the country. Most customers want at least -20 CFPP and even -25."

Warmon Oil sees growth

Warmon Oil Co., St. Louis, Mo., now sells diesel additives of Starreon Corp., Englewood, Colo., the newest entrant in the fuel additive business. Warmon started selling ValvTect diesel additives three or four years ago, and was happy with the products, but switched recently to Starreon because of what Gene Warmon considers product improvements.

Warmon is particularly impressed by test results shown in a Starreon videotape, which he uses in promoting diesel additives. In a Society of Automotive Engineers (SAE) TMC Type 2 test, conducted by Claude Travis, former chairman of the maintenance council of the American Trucking Assn., a diesel fuel containing a Starreon additive showed improved efficiency of 8.25% and reduced fuel consumption of 7.62%, the first ever shown in this test to provide fuel savings.

Warmon Oil, which sells 2.5-million to 3-million gal./mo. of diesel fuel spread out fairly evenly through the year, sells 40-45% winterized diesel during the cold months. In the summer about 10% contains a general-purpose additive.

Warmon says, "More and more companies are looking at diesel additives, and more and more are catching on." He reports the city of St. Louis is using it now and the county is considering it. Other users are Granite City Steel and a number of contractors on road grading and other heavy-equipment projects.

Warmon says diesel additives enable his company to improve margins a little, and he reports good customer acceptance.

Warmon Oil still blends No. 1 fuel into No. 2 fuel in the winter, with ratios of 50-50 to 70-30, because some customers specifically request it. But to other customers, it sells unblended winterized diesel fuel protected only with additives and it works.

Winterizing breaks the ice

Winterizing is the main diesel additive business now because the need for protection against icing and gelling at cold temperatures is so widely recognized. It opens the door to year-round sale of additized diesel fuel.

U.S. On-Highway Diesel Fuel Sales (*billion gal.*) 1986-1990

1986	17.927
1987	18.173
1988	20.039
1989	21.132
1990	21.360

(Source: Energy Information Administration, Fuel Oil and Kerosine Sales 1990.)

Mileage improvement, engine cleanliness and other diesel needs are growing in importance, and federal and state regulations are coming that will require cetane improvers, detergents and other additives, providing still another boost for diesel additives.

It's a growing business for marketers, especially while refiners don't seem inclined to participate. When refiner-brand diesel premiums become significant players in the market, if they do, marketers who are experienced in diesel additives can quickly sell refiner brands as well.

Larry Remensnyder, sales vice president of ValvTect, a company formed about five years ago, says the winter diesel additive market is "exploding." It involves using additives that eliminate or reduce use of more costly No. 1 (kerosine) in a blend with No. 2, providing savings.

No. 1 also reduces mileage and lubrication, he says. "If you can use the latest technology of wax crystal modifiers, known as cold-flow improvers, which are greatly improved compared to four or five years ago, you can now replace the first 30% of No. 1. If a customer normally runs a 70-30 blend, he can now run a straight No. 2."

In this example, with the price of No. 1 an average of 8-10¢/gal. higher, straight No. 2 would cost 3¢/gal. less than a 70-30 mixture, eliminating 0.3 gal. of No. 1. The additive would cost less than a penny. The saving is self-evident.

Some refiners use pour-point and cloud-point specifications and call it a winterized diesel fuel, Remensnyder says. "They're not interested in operability specifications, such as the cold-filter plug point (CFPP), developed in Europe 15-20 years ago and now gaining more acceptance in the United States.

"That's an operability test to predict whether your equipment will run at a specific temperature. ValvTect's cold-flow improvers dramatically reduce the CFPP. A refiner may tweak its diesel fuel with a pour-point depressant, but the fuel won't be good enough when sold as No. 2 diesel," he says.

Remensnyder says another reason the market is exploding is that earlier technology didn't do a very good job of reducing CFPP. "Today's technology is much better," he explains, and "we supply our customers, including fuel distributors, with lab testing at no cost to monitor the quality of the fuel they blend and the amount of protection they're supplying with their treated fuel."

The market is expanding also because "confidence breeds confidence," he says. "You've got references you can provide. People are reading articles and becoming more educated about it. They're giving it a try. We supply the support materials to show customers what additives can and cannot do, and they can use it to their best advantage."

ValvTect prides itself on its "business partner" program, where it provides a marketing package to diesel fuel marketers. "They can't afford a staff, three or four levels of management, develop their own advertising, obtain laboratory support," Remensnyder says. ValvTect provides sales seminars, lab testing, personalized brochures and other services.

With additive treat rates averaging 1 part additive to 1100 parts fuel (1:1100), says Remensnyder, ValvTect's 1:1500 treat rate enables marketers or customers to blend a 5 gal. container of additive into a 7,500 gal. transport load, making it easier to use. ValvTect also supplies diesel additives in 55 gal. drums and in bulk.

Winterized diesel fuel breaks the ice with customers, according to Remensnyder. "Once you get a marketer's customer on a winterized premium, which often also has detergents and cetane improvers in it—improving combustion and helping reduce emissions—they love it. Then of course you have a much better chance of rolling over a winter diesel fuel user to using a summer product."

Starreon spreads out

Mike Hilbert, marketing vice president of Starreon Corp., a 3-year-old fuel additive company in Englewood, Colo., considers all diesel fuel sales, on and off highway, a potential market for diesel additives. On-highway and off-highway sales totaled 23.2-billion gal. in 1990.

"I think the whole market is the potential. Why not?" he asks. "Perhaps it's very difficult to tap the whole market, but honestly I can't think of anybody who wouldn't derive benefits from an additive, whether it be one that reduces cold-weather gelling problems or one that cleans the engine, or whether it be a fixed piece of equipment, such as a generator, that quantifies savings by the number of hours it runs."

He believes further that while the diesel additive market is seasonal now, being mainly winterizing, it won't be in the future, when additives will be required to make engines run clean enough to meet regulations. "Diesel engine manufacturers have done about all they can in engineering," he adds. "The regulations will have to be met with the fuel."

He says tests are under development by diesel engine manufacturers to quantify how much of which diesel additive will result in what amount of engine cleanliness, and the results are dramatic.

The biggest benefits now can be shown from winterizing. Hilbert says, "We've got fleets now into their second and third seasons that went totally without blending in No. 1." He calculates that it only costs the consumer about 1.5¢/gal. for treating a gallon of diesel fuel. With No. 2 at 80¢/gal. and No. 1 at 90¢/gal., a 50-50 blend costs 5¢/gal. more. Another 4¢/gal. can be counted for loss of fuel efficiency, for a total comparison of 1.5¢/gal. versus 9¢/gal.

Until recently Starreon was most active in supplying fleets and other end users, but now the distributor business is taking off, Hilbert reports. "Fuel distributors have been calling us at an increasing rate. We expect that to continue, and we also mean to increase our own activity directly with fuel distributors."

PREMIUM DIESEL
CONTAINING
0 0 0 0
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0 0 0 0
GALLONS
DIESEL

Major refiners continue to ignore the premium diesel market, opening a window of opportunity for independent marketers in the diesel additive market.

Hilbert says Starreon's treat rates vary from 1:850 for a winter product, Winterflo, to 1:1100, 1:1500, and even 1:2000 and 1:3000, depending on the additive package.

Lubrizol's 'hard sell'

Lubrizol considers the total annual market for diesel fuel additives to be 60-million lb., all classes, including pour-point depressants, cetane improvers, detergents, others. Refiners buy about 50-million lb., according to Glen Blythe, diesel fuel additive marketing manager, and marketers about 10-million lb. He couldn't translate this into gallons because of varying blend and treat rates.

Blythe considers the market "hard sell." He says the market has started to grow, but it's up against an image problem because of "the snake oil and unsubstantiated claims" offered by some early products. He adds, "We're working hard to clean that image up, but unfortunately we have a lot of folks out there who haven't gotten religion yet."

Blythe says he was surprised by results of a survey Lubrizol made of 100 fleets a couple of years ago, aimed at finding out what the market was for pour-point depressants, a winterizer. He reports, "20% said they never used them, 20% said year-round, 60% said winter only." This was higher usage than he expected.

Malco competes

Malco Products Inc., Barberton, Ohio, is a big chemical specialty company that sells diesel additives and many other products through its warehouse distributors, but not through independent marketers. John H. Ginley, general manager of the automotive division, says Malco won't sell to marketers because they would compete with its WDs.

Malco distributors sell to service stations, repair shops, car dealers, fleets, construction companies, heavy-duty truckers and others.

Ginley considers the trucker and driver very price conscious and unlikely to be influenced by sales pitches for diesel additives. He thinks, on the other hand, large fleets, which do preventive maintenance studies and know exactly what their mileage is with what product, can justify the use of diesel additives.

Arol in the Northeast

Arol Chemical Products Co., Newark, N.J., markets diesel fuel additives and other chemicals mainly in the Northeast, mostly through marketers. Its main diesel additives, Dieselmax and Dieselmax Summer Blend, are all-purpose, with cetane improver, detergent, water dispersant, rust inhibitor and so on. The difference is that there's no antigel or deicer in the summer blend.

Jerome Sava, technical sales manager, says refiners don't generally use these diesel additives, but trucking companies and drivers increasingly do. He believes 20-30% of diesel fuel is additized in Arol's sales area. "At one time drivers used to just buy a product off the shelf," he says, "but now a lot of the fleets are buying at truckstops where a premium blend diesel fuel is available right at the pump." He says Arol has supplied diesel additives for squite awhile, but "in the last few years there appears to be a major interest in additives."

For a diesel additive that would work in the coldest winter weather, Arol additives would cost about a 1¢/gal., Sava says. "We feel we replace about 30% kerosine. With kerosine 10¢/gal. more generally, there's definitely a saving. The user is getting a better product. It's not being thinned out with kerosine, which tends eventually to cut down cetane or lubrication or mileage. There is definitely an improvement."

March 1992 $7.00

How Oil Companies Should Restructure TBA

Converting Free Car Washes to Profit Centers

Independent Refiner/Marketers Form New Group

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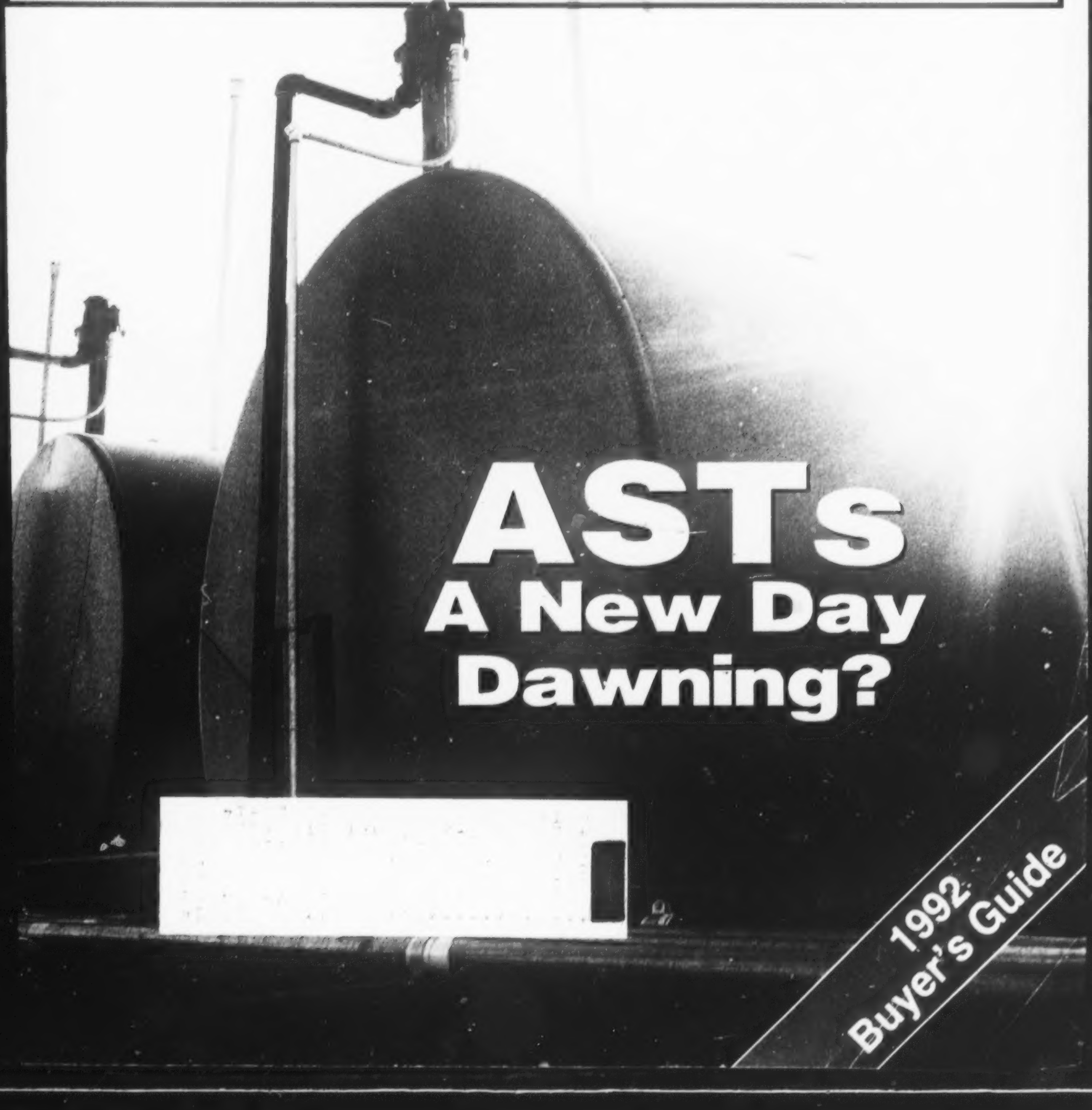

ASTs A New Day Dawning?

1992 Buyer's Guide

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Editor's Viewpoint

About 18 months ago, I had a conversation with a marketer—a very successful one—during a reception at one of the annual industry conventions. Looking around the large reception hall, filled to overflowing with his colleagues in the petroleum business, this marketer commented, "If we don't get this situation [anti-competitive market pricing] resolved, half of the people you see in this room won't show up at next year's convention. They'll be out of business."

Fast-forward to next year's convention. Same reception. Same big crowd. And, lo and behold, most of the marketers (perhaps 90%) who "showed up" for this gathering had also been present at the previous year's meeting. The anticipated massacre had not taken place. A few were missing, to be sure. But even though the pricing situation had not yet been resolved, the marketer I had chatted with had greatly underestimated the resiliency, the ingenuity and the sheer determination to survive most marketers possess.

There are serious problems in our industry today, problems perhaps more serious and numerous than we've ever experienced. Pricing volatility is just one of these. Recession, soft demand, an unending deluge of environmental mandates, difficulties in obtaining needed financing, government intrusion into every nook and cranny of your business operations—the list goes on and on.

The problems are real, but not insurmountable. In time, many of these problems will fade away. The recession will be over and consumers will be in a buying mood again. Product demand will firm up. And suppliers and marketers and dealers will discover, once again, that the most logical and beneficial relationship takes the form of a partnership, not a confrontation.

We all have a tendency to get bogged down in daily concerns; putting out a fire here, grabbing for short-term profits there. There's too much short-haul thinking and not enough long-range planning—building an agenda and an investment program for one, two, five years down the road.

Bad news gets the headlines. Too often, this subverts our attention away from the very real opportunies we have to grow and prosper in the future. And there are opportunities aplenty for marketers, independents, convenience store operators and major oil companies in the years ahead.

Just one example is the opening up of the international petroleum market in Eastern Europe and Russia, in Latin America and in the Pacific Rim countries. U.S. oil companies and even a few marketers have already staked out a presence in some of those markets.

The opportunities are there, but it will take vision and long-range planning to make the most of them.

—*Don Smith*

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March 1992 Vol. 84 No. 3

NPN

FEATURES

28 **COVER REPORT**
Marketers Find Affordable Alternatives in ASTs

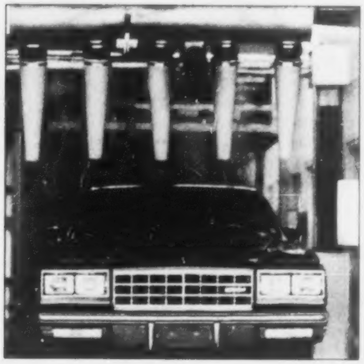
32 **TBA**
Why and How Oil Companies Should Restructure Their TBA

38 **MARKETING**
Profit Potential Lures Majors Away from Free Car Washes

72 **BUYER'S GUIDE**
- Products & Services
- Suppliers

28

32



38

DEPARTMENTS

3 Editor's Viewpoint
7 Ahead of the News
8 Top of the News
9 Catching Up
10 Trends & Marketplace
14 Regions
21 News
43 About Oil People
53 Briefs
56 Product Showcase
69 Letters
70 Coming Meetings
141 Classified

COLUMNS

59 Operations Management—*Howard Upton*
61 Legal Tips for Marketers—*Sam Borenkind*
63 Marketer's Tax Corner—*Irving L. Blackman*
65 Marketing Management—*Paul M. Forbes*
67 C-Store Opportunities—*Gerald Lewis*

Earnings: What a Difference a Year Makes

Isolate the fourth-quarter and full-year earnings reported by the major oil companies and top independent refiner/marketers for 1991 and the figures don't look all that bad, in themselves. Put the earnings numbers up against those of many of the non-petroleum industrial giants—autos, for example—and the numbers look downright rosy.

But compare the 1991 earnings of these same companies with those reported this time last year, for 1990, and the reaction runs something like, "Oh my, what happened?"

What happened, of course, was a recession that wouldn't quit, soft demand, soft prices, tight margins and assorted other negatives. It should be recalled, too—as if anyone could forget—that the fourth quarter of 1990 was that sliver of time when the Persian Gulf crisis contributed dramatically to a runup in earnings for most of the major companies. In 1990, nine oil companies earned over $1-billion for the year (total $18-billion). In 1991, the "billionaire's club" dropped to five members with a combined gross earnings of $11.3-billion.

As usual, Exxon led the earnings pack in 1991 with profits of $5.6-billion, up 11.8% over the previous year. However, the other 20 reporting companies, without exception, reported earnings declines from the previous year. In 1991's fourth quarter, only Murphy and Fina said they had improved earnings compared to the year earlier.

Downstream earnings, buoyed somewhat by early 1991 declines in feedstock prices and high refinery utilization, were pretty decent for several companies. For example, almost half of Exxon's corporate earnings came from its domestic and foreign downstream operations.

Mobil's 1991 downstream earnings were up 47% from the previous year, despite a big drop (86%) in fourth-quarter downstream profits. Texaco and Amoco also reported substantial increases in downstream earnings for the year and for the fourth quarter as well. On the minus side in refining and marketing earnings were Chevron, Shell, Arco, Phillips, Sun and Marathon.

Corporate: Fourth-Quarter and Full-Year Earnings
1991 vs. 1990
(million dollars)

	4th-Qtr. 1991	4th-Qtr. 1990	% Chng.	Full-Year 1991	Full-Year 1990	% Chng.
Exxon	$1,120.0	$1,555.0	(28.0)	$5,600.0	$5,010.0	11.8
Mobil	401.0	651.0	(38.4)	1,921.0	1,929.0	(0.4)
Chevron	39.0	633.0	(93.8)	1,293.0	2,157.0	(40.1)
Amoco	200.0	538.0	(62.8)	1,220.0	1,913.0	(36.2)
Shell	(23.0)	446.0	—	20.0	1,036.0	(98.1)
Texaco	324.0	388.0	(16.5)	1,294.0	1,450.0	(10.6)
Arco	268.0	566.0	(52.7)	709.0	2,011.1	(64.7)
BP America	n/a	n/a	n/a	n/a	n/a	n/a
Phillips	79.0	237.0	(66.7)	258.0	779.0	(66.9)
Conoco	54.0	405.0	(86.6)	814.0	1,078.0	(24.5)
Unocal	(16.0)	38.0	—	73.0	401.0	(81.8)
Marathon	(148.0)	328.0	—	358.0	1,081.0	(66.9)
Coastal	12.4	94.9	(86.9)	96.3	225.6	(57.3)
Sun	(35.0)	18.0	—	(387.0)	229.0	—
Amerada Hess	(51.6)	235.2	—	84.3	482.7	(82.5)
Pennzoil	4.4	29.9	(85.2)	21.0	93.8	(77.6)
Ashland	29.0	(10.8)	—	[1st Qtr. fiscal ends 9/30]		
Kerr-McGee	34.8	49.9	(30.3)	101.0	150.2	(32.8)
Murphy	24.9	18.9	31.7	(11.0)	113.9	—
Fina	21.8	19.6	11.2	42.0	125.5	(66.6)
Citgo	n/a	n/a	n/a	332.8	327.8	1.5
Dia. Shamrock	(2.3)	7.7	—	37.1	77.5	(52.1)
Total Petroleum	(10.7)	(3.6)	—	(9.3)	31.2	—

Downstream: Fourth-Quarter and Full-Year Earnings
1991 vs. 1990
(million dollars)

Exxon Total	$261	$306	(15)%	$2,556	$1,315	94%
Domestic	47	(24)	—	514	78	559
Foreign	214	328	(35)	$2,042	$1,237	65
Mobil Total	37	258	(86)	931	633	47
Domestic	(87)	16	—	118	91	30
Foreign	124	242	(49)	813	542	50
Chevron Total	(76)	150	—	333	763	(56)
Domestic	(226)	—	—	(153)	376	—
Foreign	150	150	0	486	387	26
Texaco Total	170	(15)	—	835	618	35
Domestic	(19)	(65)	—	188	244	(23)
Foreign	189	50	278	647	374	73
Amoco (worldwide)	109	78	40	644	370	74
Shell	(127)	23	—	(164)	88	—
BP America	n/a	n/a	n/a	n/a	n/a	n/a
Arco	48	54	(11)	266	439	(39)
Phillips	(7)	(15)	53	88	145	(39)
Conoco	n/a	162	n/a	n/a	562	n/a
Sun	(14)	(15)	7	105	155	(32)
Marathon	83	69	20	401	551	(27)

• TRENDS

Emissions Mandate Means EVs Are Coming

Electric automobiles are coming, no doubt about it. These vehicles do pose a threat to gasoline marketers—though not a critical one in the foreseeable future—because electricity is not an "alternative" fuel. Alternative fuels at least have the potential to be marketed by the same companies now marketing gasoline and in approximately the same way, but electricity does not.

Electric cars will most likely be recharged at home in the garage at night, and also at recharging stations provided in parking garages and other appropriate public places. Rechargers will be plugged into conventional 120-volt AC receptables, according to current thinking.

The coming of electric vehicles (EVs) is inevitable because they are being mandated in California. Auto manufacturers who want to sell cars in that state will have to develop electric ones. Every major auto manufacturer has one in the works, it's reported. Once EVs become available, they'll soon be available everywhere, though it's not clear who will buy them.

The South Coast Air Quality Management District (SCAQMD), covering the greater Los Angeles area, backed away from its incredible goal of all zero-emission vehicles in two decades. Zero emission means electric, at this stage of technology, anyway. The management district's mandatory target now is more than 1-million EVs by 2010 in four counties: Los Angeles, Orange, Riverside and San Bernardino.

SCAQMD is planning for 17% of cars being powered by electricity in 18 years. This projection translates into 1.3-million electric cars. Daniel Sperling, director of the Institute for Transporation Studies at the University of California, Davis, believes this goal won't likely be reached without incentives, such as more state tax breaks, preferential parking by local governments and government or utility subsidies of home-recharging equipment, which is estimated to cost $100 to $900.

Major auto manufacturers are working on EVs for introduction in the mid-1990s. This will set them up, at least in theory, to meet the California Air Resources Board (CARB) statewide mandate of 5% of new cars, about 40,000, electric in 1998, and 10%, or 200,000, of new cars in 2003. These goals are not as stiff as the SCAQMD's, but they cover a lot more territory.

Nobody knows how many EVs people will buy. California recently began offering a sales tax exemption and a $1,000 state income tax credit for converted electric cars, but the U.C. researchers say this is not enough to promote widespread purchases of new electric cars once they become available.

The researchers think EV buyers would probably need to own more than one vehicle because of its short driving range, 70-120 miles. EVs would cost about twice as much as conventional gasoline-driven vehicles, so many people couldn't afford them.

A 1988 Los Angeles initiative, which sponsored a worldwide competition for the design of 10,000 EVs for southern California drivers, resulted in a contract with Clean Air Transport, a Swedish-English consortium. The company is designing a hybrid gasoline-electric engine expected to be priced in the mid-$20,000 range and franchised through local dealers.

Such a vehicle would enable drivers to switch to gasoline when their batteries ran down, but air-pollution authorities won't be satisfied with that in the long run, they say. They mean a zero-emission vehicle. This standard would even ban another hybrid design, EVs charged by a small, onboard gasoline engine, 15-hp or so.

The exact EV configuration hasn't emerged yet. There are a lot of peole working on development of the various technologies involved, especially batteries. The Japanese are working on the problem, too, and are said to have some surprises in store.

All-electric urban automobile transportation is no doubt a long way off, if it ever comes. Maybe by the time it arrives, petroleum marketers can figure out a way to market electricity at charging stations. *—Mark Emond*

• MARKETPLACE AT A GLANCE

AVERAGE GASOLINE PRICES IN THE U.S. (per gal.)

DECEMBER	Gasoline (All types)	Leaded Regular	Unleaded Regular	Unleaded Premium
U.S. City Avg.	$1.182	*	$1.123	$1.309
Regions				
Northeast	1.269	*	1.191	1.400
North Central	1.150	*	1.112	1.280
South	1.171	*	1.100	1.278
West	1.155	*	1.112	1.289

** Data no longer collected or available.*
Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

STOCKS (Add 000 bbl.)

	2/1/92	1/25/91
Gasoline (Total)	224,670	220,949
Unleaded (*)	176,475	172,665
Jet Kerosine	44,624	45,135
Distillates	110,683	115,372
Residual	48,289	49,679

(*) Leaded regular prices no longer collected by Bureau of Labor Statistics.
Source: American Petroleum Institute.

Why and How Oil Companies Should Restructure Their TBA

Oil companies, including their service stations, have been losing ground in the automotive aftermarket for many years, although they are still strong, with 22% of the service outlets and 21% market share [*NPN*—Oct. '91, p47]. The decline continues, however, and the future isn't bright for TBA marketers who don't change in step with trends.

This is not to say that conventional service stations can't be profitable doing what they are doing and have always done. They can be, and there are very successful ones to prove it. But oil-company TBA (tires, batteries, accessories) programs are running into stronger forces and need rethinking and restructuring to keep them profitable or make them more so.

This is the view of Arthur Chiang, a principal in the engineering and manufacturing group of Booz, Allen & Hamilton management consulting firm, Chicago office. Chiang, who has consulted with TBA manufacturers, distributors and retailers, concludes that "trends are not favorable for TBA businesses," by which he means those of oil companies and of the traditional aftermarket—from manufacturers to warehouse distributors (WDs) to jobbers to service stations.

This was a gloomy message to deliver to a national convention of the International Oil Industry TBA Group, but Chiang presented a brighter, positive side, too. He said, "At the same time, there are opportunities to respond to the aftermarket trends, restructure, and shape strong and profitable TBA businesses."

He offers four major suggestions for oil-company TBA programs:

- Certain aftermarket trends are unfavorable [as we shall see], and the status quo has to change.
- The strength of your TBA business is linked to the strength of your service stations, and any TBA strategy should be developed in harness with a service station strategy.
- Because of the likely downsizing of the business, restructuring your TBA is inevitable. You will likely have customers that are unprofitable and need to be rationalized. There are also product lines that are unprofitable and have to be rationalized. And some streamlining of operations is necessary as well.
- As this restructuring takes place, your TBA businesses can form alliances with other program groups. This will enhance your own business, the business of the program group and the business of your service station customers.

By Mark Emond
Staff Reporter

What's unfavorable?

As a foundation for deciding on an action program, the trends in the automotive aftermarket must be understood. There are many trends to consider. Here are some Chiang singles out.

The automotive aftermarket is in general mature, with very slow growth in prospect. The typical oil-company TBA business is, for the most part, the distribution of private-brand products to service stations. Both aspects are in trouble.

- Private-brand tires, for example, are less attractive to customers than they once were. In the mid-'80s, over half of the replacement tires were private brands. In the '90s, nearly 60% of the replacement tires are manufacturers' brands. Tire manufacturers have been much more aggressive in pushing their brands, and consumers have responded.
- The decline in the number of service stations has been going on continuously since the '70s, driven by market conditions and by the gasoline marketing strategies of increasing station throughputs and adding convenience stores. In the mid-'60s, more than 80% of automotive service and repair outlets were gasoline stations. Today the number has fallen to about 20%. The remaining 80% is independents, chains and franchises (such as Midas and Goodyear) and new-car dealers.

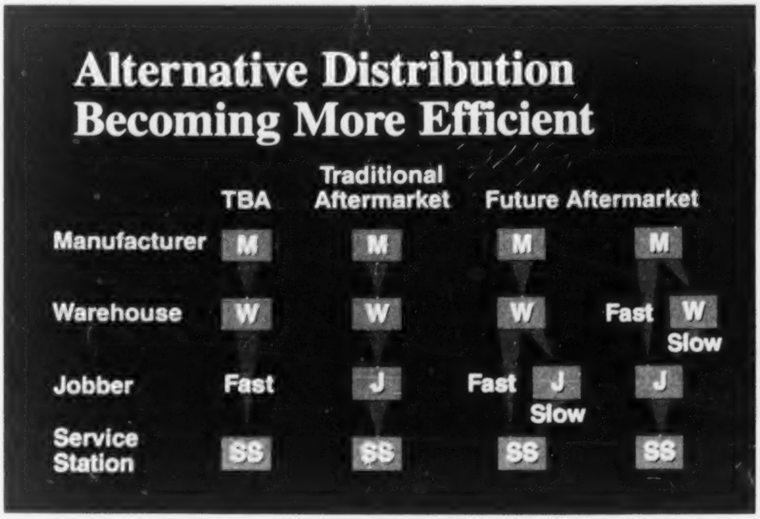
Gauging disadvantages

Competitors of service stations have cost advantages and strong marketing formats, Chiang continues. The accompanying chart shows the cost advantages in doing brake work by specialist repair and tire store outlets compared with service stations.

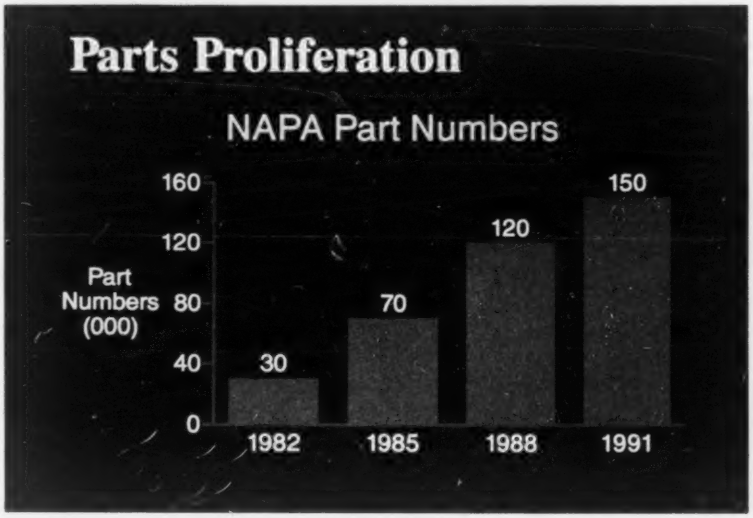
These competitors have materials cost advantages because of their aggressive buying programs. Specialists have lower labor costs because of their focus on specific repairs. These advantages are partially neutralized by their large expenditures on marketing and advertising. The advantage of both competitors in fixed shop costs stems from their large six-bay to eight-bay stations, allowing them to amortize the costs over greater volume.

New-car dealers are making a comeback in repair service. Weak auto sales volume drives dealers to bolster repair income. Warranty programs are expanding in coverage and duration. Improved quality of vehicles and fewer repairs are both bad news for the TBA business.

Automotive aftermarket distribution is becoming more efficient. As shown in the



Two-step distribution for fast-moving lines will improve efficiency in getting TBA/parts to end users.



Astronomical parts proliferation has put a premium on developing more efficient distribution.

accompanying chart, oil-company TBA programs distribute fast-moving products directly from warehouse to service station. These are structurally more efficient and less costly than the traditional aftermarket, which adds a step from warehouse to jobber to service station.

The traditional aftermarket moves both fast and slow products through a three-step channel. However, it is recognizing the need to become more efficient and is restructuring distribution to flow fast-moving parts through two steps instead of three. As it succeeds, it will have a cost advantage because of its larger scale and systems capabilities.

The number of parts needed to service automotive vehicles has grown fivefold in the past decade, mostly because of increasing imports and models. From 30,000 in 1982, the number has grown to 150,000 in 1991 (see chart). This has important consequences for competing channels of distribution.

Fast-moving products represent only 5% of the total number of products service stations require. The three-step traditional channel has significantly lower costs in distributing the remaining 95%, the slower-moving items. That segment of the market is going to expand in volume because of parts proliferation.

Parts proliferation should continue in the '90s. Multiple nameplate models are continuing to increase. For example, Mazda is going to create a new nameplate. Models are being restyled every three years, compared with 5-10 years in the past. As component systems change from mechanical to electromechanical or electronic, whole new categories of part numbers will be created within product lines.

TBA pluses

Oil-company TBA distribution is losing its cost advantage, but it should be able to price competitively in the marketplace and be profitable, Chiang believes. This is because of the way pricing is done in the aftermarket.

Manufacturers establish resale prices for the traditional channel at every level of the chain. These result in an average gross margin regardless of the distribution cost of the product.

These pricing structures give oil-company TBA two advantages in the marketplace. One is that oil companies can buy for less because they sell large numbers of fast-moving products. Manufacturers price to earn a consistent margin across low-volume and high-volume products; therefore, they earn a higher net profit on the high-volume parts. The higher net profit on the fast-moving parts compensates for the lower net profit on the slow-moving parts.

The manufacturers actually earn equal or higher profits on these lower prices to oil companies because they do not have to subsidize the lower net profits from the low-volume parts which are necessary for the traditional channel.

The second advantage is that there is a pricing umbrella at the installer level of the market. Because the resale price structures establish average gross margins at every level of the chain, the prices for fast-moving parts are artificially high at the installer level to cover the high cost of distributing slow-moving parts. This provides a pricing umbrella under which oil companies can operate.

"At the same time, there are opportunities to respond to the aftermarket trends, restructure, and shape strong and profitable TBA businesses."
—Arthur Chiang

Down with the status quo

For oil companies, to accept the status quo in the automotive aftermarket is to accept inevitable decline and, as they say, suffer death by a thousand cuts, Chiang says.

The challenge that confronts oil-company TBA is how to strengthen the business in the face of the aftermarket trends. There are three basic challenges for oil companies. They must:

- Develop service station strategies that strengthen the TBA customer base and ensure an enduring business.
- Restructure to reflect the inevitable downsizing of the business.
- Extend the reach of the TBA business through alliances with other parts distributors.

Some oil companies wish that service stations would just go away, Chiang says. Automotive repair is a different business and creates headaches for oil marketers. There is no profit for the oil company in auto repairs.

"But the service stations are too important to ignore," declares Chiang. "Service stations are an integral element of the gasoline marketing strategy. The service stations represent a large share of gasoline volume, and it is not economical to convert all the service stations to C-store-type operations.

"At most service stations, the contribution from the gasoline alone is not suffi-

A Parts and Labor Warranty Program Is Now Available to Independents

Independent auto service dealers who aren't part of an established nationwide parts and labor warranty program can now belong to one—"Pronto Protection Plus Nationwide Warranty." Pronto is a nationwide auto parts system of jobbers and 150 warehouse distributors.

Car-care warranties are widespread in the oil industry, with Shell's Auto Care, Amoco's Certicare, Sun's Ultra, Mobil's Car Care Network and Chevron's Auto Pledge, but independent installers do not share this competitive advantage.

This is Pronto's target group. "This will be the first in the automotive aftermarket," says William R. Jones, president of American Automotive Aftermarket Network Inc., which administers the program for Pronto. "Pronto has taken a quantum step in filling a warranty void for these dealers in the secondary and rural markets."

Pronto's overall auto parts program provides, in addition to the new nationwide warranty, national and local advertising, technical training, point-of-sale signs, parts stocking, customer followup and preventive-maintenance and promotional merchandising assistance.

Warranty members pay $70/mo. for coverage. If a job comes back to the installer, he fixes it. If the failure takes place 50 miles or more from the facility, Pronto fixes it. Towing is not covered. All claims must be approved by the nationwide warranty center prior to being eligible for payment.

Repairs are guaranteed for four months and 6,000 miles. Pronto recommends that dealers buy parts with equal or longer guarantees. Approved types of repairs are tire repair, mounting and balancing; front-end alignment; suspension and front-end; brakes; clutch, power steering; engine tuneup; heating and air conditioning; electrical system; and minor automobile repairs and services.

Excluded repairs are any engine repairs or component replacement of internally lubricated components or replacement of engine assembly; transmission/transaxles; drive-axle/differential assemblies; and autobody, paint, molding and glass.

Contact Pronto Protection Plus Warranty Program at P.O. Box 1088, Arvada, CO 80001. Or contact the American Automotive Aftermarket Network Inc. at (303) 421-0622, fax (303) 421-0693.

"Pronto has taken a quantum step in filling a warranty void for these dealers in the secondary and rural markets."
—William R. Jones

cient to support the site; therefore, the auto repair contribution is critical to the viability of that site and to maintaining the site to market gasoline."

Chiang disagrees with conventional wisdom that views the service station as a dinosaur. He says consumer research shows that there are several large segments of consumers that are attracted to service stations:

- Consumers who want to take their cars to a mechanic they know and trust.
- Consumers who want to take their cars to conveniently located sites.
- Consumers who want to go to one location for all their auto needs—because it is convenient, and also because they don't have to build new relationships with numerous mechanics, many of whom they probably don't know and instinctively mistrust.

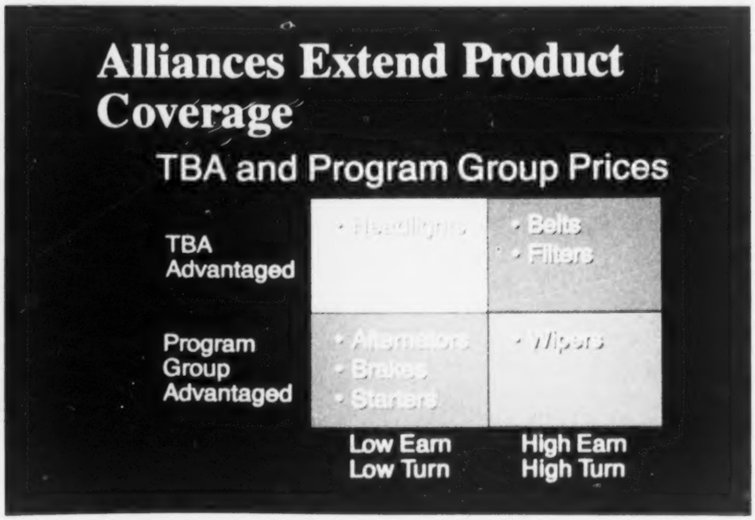
Service stations have the big advantage that the gasoline business builds a customer base and also contributes income to cover many of the fixed costs of the business.

Two bays can work

Chiang says one reason service stations are considered dinosaurs is that many have only two bays, but he believes even two-bay stations can be viable.

Assumptions that multiple bays of undercar specialists and tire stores enable them to amortize their fixed costs over the larger scale of their six-bay to eight-bay facilities are based on presumed full utilization of the capacity, which isn't so.

"In reality, the undercar specialists and the tire stores do not utilize their capacity," Chiang asserts. "On average, the service stations have as much revenue per bay as the undercar specialists and the tire stores, and in many cases have far superior

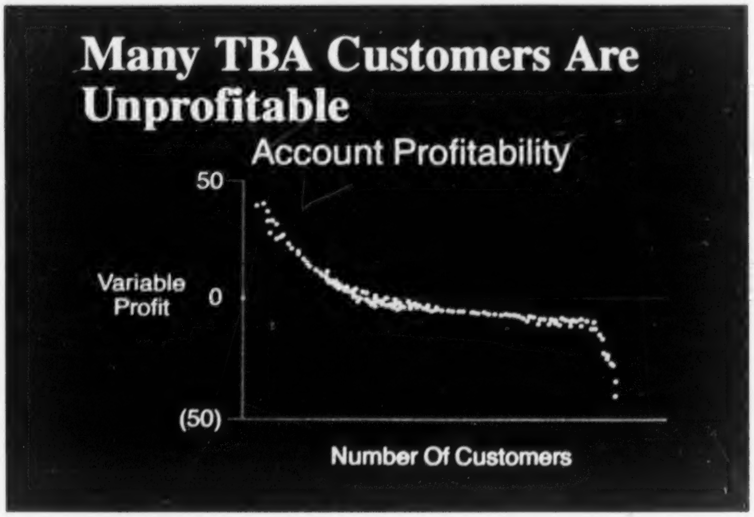


Alliances Extend Product Coverage

TBA and Program Group Prices

	Low Earn Low Turn	High Earn High Turn
TBA Advantaged	• Headlights	• Belts • Filters
Program Group Advantaged	• Alternators • Brakes • Starters	• Wipers

Evolving aftermarket structure will show new alliances between oil company, TBA and traditional parts distributors.



TBA customers, individually or in segments, are not equally profitable, since costs of serving those customers are inherently variable.

utilization of their bays [see chart].

"Many two-bay service station dealers have demonstrated that they can attract the consumer segments that would prefer to be served by service stations and, with the contribution from both auto repair and gasoline, can earn attractive profits and compete in the aftermarket."

Developing TBA programs

Many of the cost advantages of service stations are based on operational differences, not structural differences, Chiang says. "The reason these operational disadvantages exist is that the service stations suffer from neglect."

In order to be a leading service repair chain in the automotive aftermarket, the business system must have certain elements. "Most of the service stations today are not operating under such a business system," he explains. "Developing a strong aftermarket business system is a key element of developing the service station strategy."

Here's what a service station business system should have:

- Means of communicating to motorists the positive characteristics that distinguish the station from all other repair service alternatives, and why motorists should prefer it.
- A station image that supports this message.
- A package of services that supports the distinguishing characteristics and the image. Although warranties are becoming more extensive, potentially taking away business from service stations, they will never cover recurring repairs such as brakes, because car manufacturers couldn't afford it.
- Advertising and marketing programs that communicate to consumers what products and services are being offered and draw them into the station.
- Operating procedures to provide high-quality customer service and efficient operating costs.
- A supply source for both TBA and non-TBA products that ensures competitive costs, a key area for repair service profitability.
- Computer systems and training.

Going with trends

Oil companies need to restructure their TBA programs to reflect aftermarket trends, Chiang says. Specifically, TBA suppliers must manage the profitability to the supplier of each customer, optimize product lines and form alliances.

Based on Booz, Allen & Hamilton's work with aftermarket distributors, many TBA customers are unprofitable to the supplier, as the accompanying chart shows. Each dot represents a customer of an aftermarket distributor. The dot is the variable profit, that is, revenue less direct variable costs, which is the profitability of that customer to the supplier.

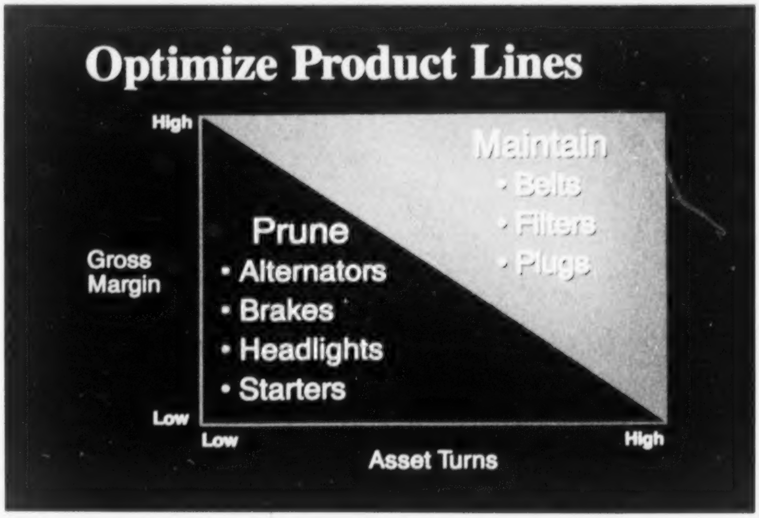
"Since the aftermarket distributor did not have a good understanding of its variable costs to serve each customer, it had no idea that a large portion of its customer base was unprofitable," Chiang explains.

"Our hypothesis is that if we apply the same analysis to your TBA customers [dealers, distributors], we would find the same situation. The hypothesis is that 20-40% of your customers are probably generating 80% of your revenues and nearly all of your profitability, while the remaining 60-80% of your customers are generating very little of your revenue and yet are generating a sizable amount of your costs and are unprofitable."

Once you understand the costs of serving individual customers and segments of customers, you need to "reconfigure your operations to serve those customers more economically and establish new pricing structures," says Chiang.

Here are some TBA operating cost variables:

- Type of customer. For example, gasoline-only stations have different characteristics than service stations.
- Volume of customer. The larger customers likely cost less to serve than do the



Oil company TBA programs should focus on products lines with high inventory turns and gross margins.

How Head-to-Head Competition Outperforms Niche Marketing

Oil companies should battle head-to-head with top competitors in the automotive aftermarket, instead of seeking seemingly secure niches as many have in the past, says William R. Jones, president of Warranty Service Systems Inc. (WSSI), Denver.

"During the 1980s we saw a competitive strategy which was guided by the idea that businesses should find uncrowded niches and develop products and services unimpaired by direct competition," he said, describing it as a "defensive strategy" with "disastrous results."

Speaking at a recent convention of the International Oil Industry TBA Group, Jones said head-to-head competition has several advantages: it builds organizational strength, it accelerates organizational learning and development, it encourages organizations to service their customers better and it simplifies a company's strategic agenda.

WSSI, which provides nationwide warranty administration services for TBA programs, pioneered Shell's Auto Care warranty in 1985 and now provides warranty services at over 7,000 outlets for what Jones calls "the nation's largest company-owned and dealer networks in the automotive aftermarket."

Jones described a new trend, "data-base marketing," which focuses on specific individuals, not generalized customers. This is a service offered by another of his companies, Data National.

He said, "Data-base marketing means turning away from throwing advertising and promotion at the great, faceless crowd known as the mass market and turning towards focusing communications on individual customers known by name, address, vehicle, type of services performed and other relevant information stored in a relational data base."

Computers can also be used to analyze the results of training by examining work orders and sales invoices. Jones said, "This type of close relationship between training and marketing will be where companies will be separated in the head-to-head competition of the '90s."

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smaller customers.

- Product mix. Some products are more profitable than others.
- Order frequency and size of each order. The customer that has fewer, larger orders is more profitable than a customer with many, smaller orders.
- Location. A customer located in a major metropolitan area close to your warehouse costs less to serve than one located in a rural area.

Optimizing product lines

Product lines are not equally profitable. Some are big moneymakers, and some are probably losers. The key is to concentrate on the moneymakers and perhaps cull the losers.

Determine the high-margin, high-turn product lines. These are probably very profitable. Determine the low-margin, low-turn product lines. These are probably unprofitable. This kind analysis is commonly called an "earn and turn."

"Our hypothesis is that the low-number SKU [stockkeeping unit], high-volume product lines such as belts, filters and plugs are in the upper right-hand corner of the chart and those are product lines that you would want to maintain in your program," Chiang says. The products shown in the chart are hypothetical, but directionally correct, he adds.

"On the other hand, the low-volume, high-value parts tend to be in the lower left-hand corner and are unprofitable, and those are the products TBA is uncompetitive in serving and possibly should be pruned."

Forming alliances

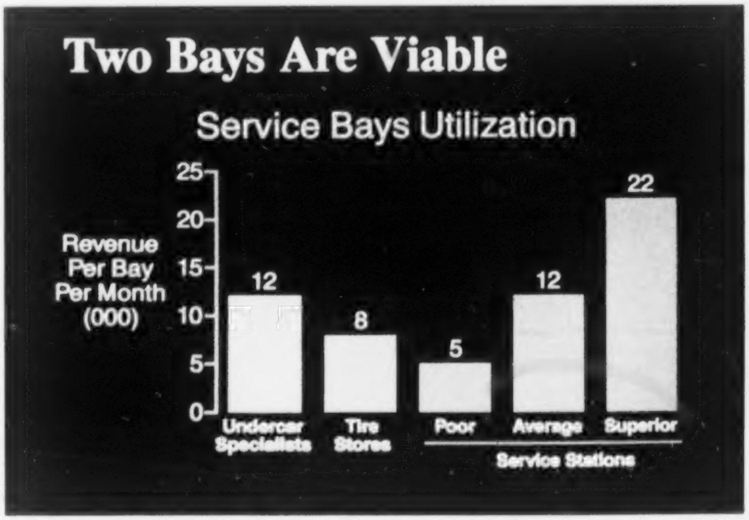
The objective of TBA programs should be to distribute profitable product lines to service station customers and to buy from the most economical sources, says Chiang. "The objective should not be to distribute as many product lines as possible."

But, realistically, "service stations need a full set of product lines to provide adequate service to their motorist customers," and this can be achieved by developing alliances with other aftermarket distributors, for example, national program groups such as NAPA, Big A and AAAD, he says. "TBA programs can provide complete product lines to service station customers and very competitive prices."

Chiang explains, "The program groups play an important role in aftermarket distribution, particularly in distributing slow-moving items. Integrating TBA distribution of fast-moving parts and program-group distribution of slow-moving parts would be a powerful combination."

Chiang further explains that this should not be difficult because the program groups are fighting for market share, are eager to serve national accounts and are undervaluing their service when distributing slow-moving parts in the marketplace.

As the chart clearly illustrates, there are likely certain sets of TBA lines in which oil companies have price advantages and which realize high earns and turns. These are the product lines that oil companies should keep and continue to distribute. The product lines in which the program groups have price advantages are the high-value, low-volume parts which realize low earns and turns. These are the product lines the program group should distribute.



Efficiently operated two-bay service stations often generate higher per bay returns than larger tire and specialist shops.

(Continued from page 69)

wide effort to solve such programs. Hopefully, this will happen before the first hearings on the bill.

Stephen R. Shelton

Steve Shelton, 54, served as the executive director of the Southern California Service Station Assn. for 17 years and chairman of the SSDA strategic planning committee for 2 years until his resignation in April 1991. His 30 years of petroleum marketing experience covers wholesale, retail and association management. He is currently self-employed as a consultant and expert witness on industry matters.

Letters to the Editor, with the writers' names, address and daytime phone number should be sent to The Editor, National Petroleum News, 950 Lee Street, Des Plaines, IL 60016 or Fax: 708/803-3328. Letters are subject to editing for reasons of space and clarity.

Corrections:

In Howard Upton's January column, it was reported that if an underground tank is taken out of service for three months or longer, federal rules require that the tank be removed from the ground, or filled with inert material, etc. The correct period after which these optional actions become required is 12 months, not three months.

Also, the headings on the two charts shown on page 34 in the January issue of *NPN* were incomplete. The heading of the top chart should read: "Average C-Store Merchandise Gross Profit Margin—1991." The heading of the bottom chart should read: "Projected C-Store Gross Profit Margin Increase—1992." *NPN* regrets these errors.

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Specialty Equip. Co. . . . 62
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Tidel Engineering . . . 81
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Total Containment . . . 97
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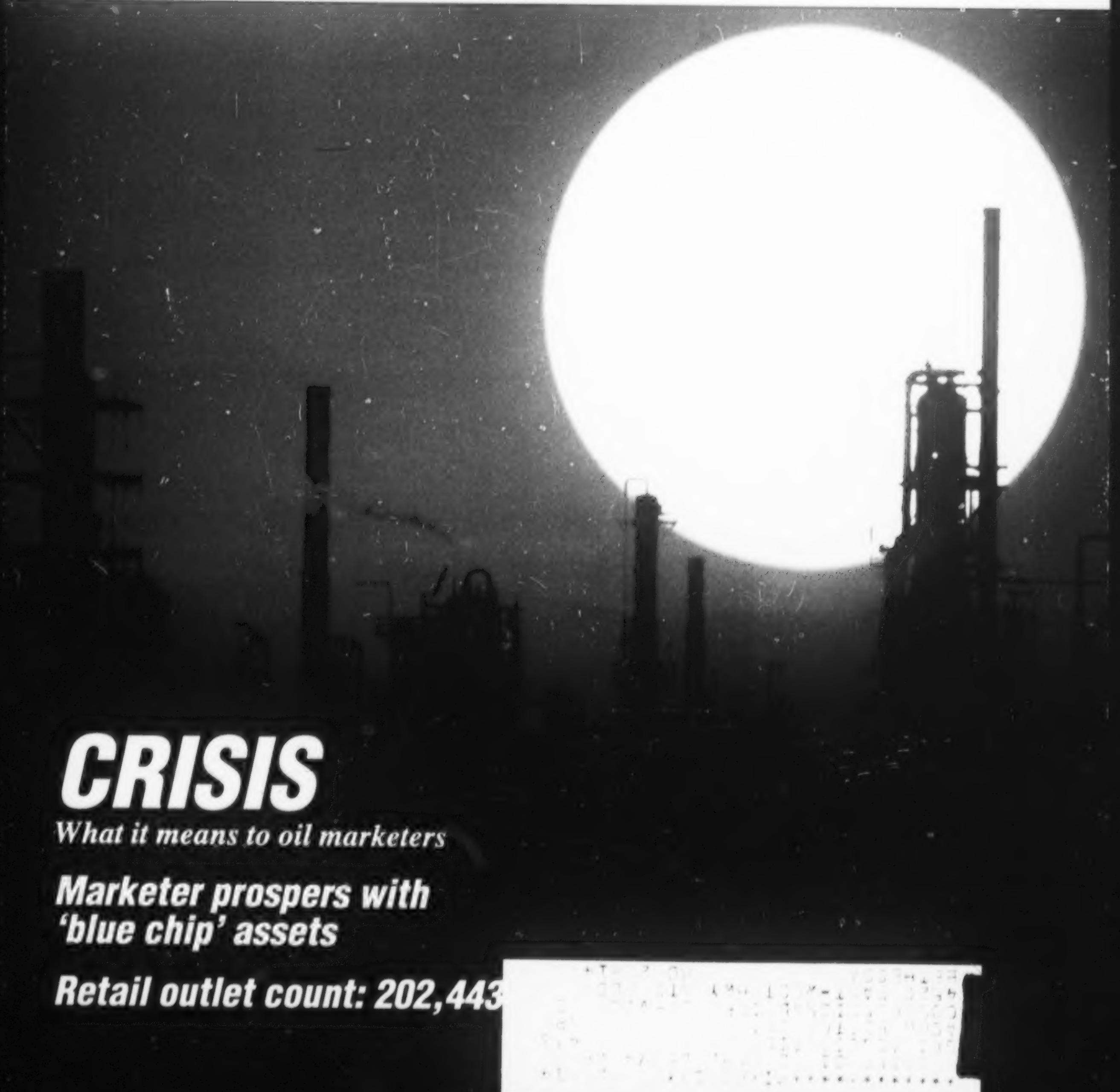

CRISIS

What it means to oil marketers

Marketer prospers with 'blue chip' assets

Retail outlet count: 202,443

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Editor's Viewpoint

In 1972, there were 226,459 gasoline service stations in the United States. It was a high-water mark for our retail gasoline industry, a station population figure that has never been equaled, before or since.

Back then, that was a number in which everyone had confidence, *NPN* editors included. The U.S. Census Bureau, which cranked out an official retail head count every five years, was *the* source for this data. We had no reason to doubt the Census figures; they were backed by the authority of the federal government, with required reporting from every retailer.

Nor did we worry all that much about the definition of a *true* service station. A "conventional" service station was just about the only place a motorist could buy gasoline. Typically, it was a facility not unlike its 226,000 brethen across the land. It had two or three service bays (backrooms) for fixing customers cars (194,000 of the total stations were of this type). Self-service dispensing was still in its infancy; full-service was the norm just about everywhere. Only a small minority of stations had convenience stores attached (or, if you like, only a few C-stores had gasoline pumps out front.)

On the whole, it was a homogeneous marketplace. We had a good grasp of the dimensions of the market—number of stations, where they were, facility type, that sort of data. As we all know, however, the petroleum market began changing dramatically, beginning about 1973 with the first oil embargo. Self-service gasoline began its explosive growth. Jobbers, independents, C-store companies and even a few majors rushed to jump aboard the combination gasoline/C-store bandwagon. Car washes, too, became more prominent in the gasoline marketing scene.

Somewhere along the line we began to lose track of the true scope of the retail gasoline market. The Census people narrowed their survey focus to what they defined as "primary" retail gasoline outlets, those with payrolls and at least 50% of their sales in gasoline. Unfortunately, this counting procedure resulted in a distorted picture of the gasoline market. The Census Bureau tells us that the number of stations declined from 226,000 in 1972 to 114,000 in 1987, a 50% drop. If you're only interested in the number of conventional-type stations, that figure is probably correct.

But what about the tens of thousands of C-stores and other facilities that have became a very prominent (and very competitive) part of the market, accounting for billions of gallons of gasoline sales each year? It is unrealistic, and self-defeating, not to consider these outlets as full-fledged members of the gasoline marketing fraternity.

This is why *NPN* editors decided last year to begin putting the dimensions of the retail market back into a more realistic and accurate perspective than has been available for many years. Our figures, as shown on p42, are not perfect yet; we're only one year into this new counting procedure. But they're the best figures available, and we're working hard to make them better in years to come.

—Don Smith

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April 1992 Vol. 84 No. 4

FEATURES

COVER REPORT

Refinery crisis:
What it means to oil marketers
By Mark Emond 28

MANAGEMENT

South Dakota marketer cuts losers, prospers with 'blue chip' assets
By Steve Dwyer 36

MARKETING

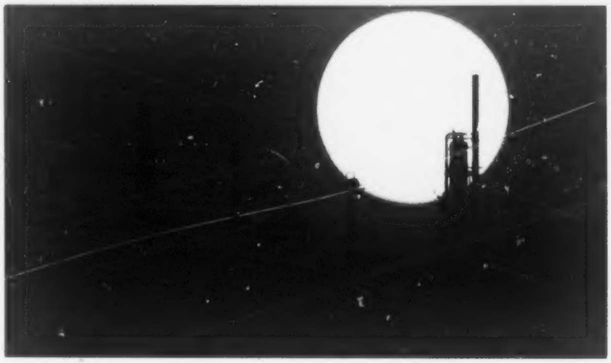
Retail outlet count edges down, but is still over 200,000
By NPN Staff 42

1992 Retail Outlet Population

	Total Outlets			
	NPN Survey		Census Data	
	1992(a)	1991(a)	1987(b)	1972(c)
Alabama	6,500	6,500	2,229	4,510
Alaska	296	300	214	241
Arizona	2,425	4,010	1,241	2,357
Arkansas	3,552	3,764	1,357	3,144
California	13,140	13,800	9,812	19,513
Colorado	[illegible]	3,400	1,568	3,170
Connecticut	1,850	1,900	1,671	2,798
Delaware	508	450	279	557
Dist. of Col.	180	134	115	318
Florida	10,062	10,152	5,933	9,199
Georgia	7,000	7,000	3,273	6,730
Hawaii	407	392	355	480
Idaho	1,073	1,123	588	1,193
Illinois	5,749	10,100	4,655	10,211
Indiana	3,901	4,500	2,854	6,235
Iowa	3,783	4,169	2,020	2,613
Kansas	2,896	3,062	1,576	3,609
Kentucky	2,360	2,446	2,058	3,921
Louisiana	9,497	6,600	1,934	3,921
Maine	1,500	700	673	1,224
Maryland	2,245	2,450	1,846	3,012
Massachusetts	4,500	2,500	2,738	4,698
Michigan	6,905	8,500	4,164	8,919
Minnesota	3,157	3,598	2,289	4,585
Mississippi	6,127	6,000	1,374	2,727
Missouri	5,895	7,200	3,119	6,280
Montana	1,432	1,400	548	1,190
Nebraska	2,008	3,000	1,153	2,265
Nevada	694	450	441	798
New Hampshire	1,069	1,050	534	888
New Jersey	3,800	3,860	3,791	5,768
New Mexico	1,858	2,066	896	1,831
New York	7,000	6,800	5,982	11,359
North Carolina	10,244	10,643	3,547	6,946
North Dakota	983	1,245	471	910
Ohio	6,632	6,205	5,362	11,723
Oregon	2,091	2,165	1,352	2,828
Oklahoma	4,450	4,700	1,705	4,153
Pennsylvania	5,790	6,000	5,192	11,256
Rhode Island	703	602	487	901
South Carolina	4,776	5,200	1,833	3,720
South Dakota	1,245	1,245	556	1,171
Tennessee	6,000	6,000	2,491	5,147
Texas	9,900	11,000	8,568	17,118
Utah	2,118	2,137	849	1,504
Vermont	854	856	569	596
Virginia	6,400	6,000	2,740	4,648
Washington	5,308	3,500	2,003	3,945
West Virginia	2,700	2,800	1,013	2,156
Wisconsin	4,388	5,074	2,735	5,182
Wyoming	1,175	1,372	415	772
Total U.S.	202,443	210,120	114,748	226,459

(a) This compilation embraces all outlets where gasoline is sold at retail. It includes service stations, convenience stores, car washes, etc., a universe, in effect, of retail gasoline outlets. The surveys were completed in March 1992 and January 1991, respectively.
(b) These are the U.S. Bureau of the Census figures for 1987, but include only those service stations that have employees and payrolls and generate more than half their income from gasoline sales. Automatically excluded were convenience stores, car washes, etc.
(c) These are the U.S. Bureau of the Census figures for 1972 and are generally considered a "universe count" because only a handful of places, beyond orthodox service stations, sold gasoline at retail at that time.

Sources: NPN state by state telephone survey for 1992 and 1991; U.S. Bureau of the Census, Census of Retail Trade, 1987 and 1972.



DEPARTMENTS

Editor's Viewpoint 3
Ahead of the News 7
Top of the News 8
Catching Up 9
Trends & Marketplace 10

Regions

- East 12
- South 13
- West 15
- Midwest 16

General News 21
- Reformulated vs. methanol: Which is the 'fuel of the future'?
- Canadian marketers face urgent questions in '92
- Plungers, followers and wailers...Keeping the creative spark alive
- Self-serve preference still growing
- Wholesaler group offers comprehensive ADA guide
- January increase in deliveries no big deal, API says

About Oil People 44
Briefs 48
Product Showcase 50
Letters to the Editor 64
Coming Meetings 66
Classified Advertising 69

COLUMNS

Operations Management
An affordable "board of directors"
By Howard Upton 54

Legal Tips for Marketers
Independent contractor crackdown
By Sam Borenkind 56

Marketer's Tax Corner
A big tax victory—with your help
By Irving L. Blackman 58

Marketing Management
Becoming a sought-after employer
By Paul M. Forbes 60

C-Store Opportunities
The greening of America
By Jim Mitchell 62

• TRENDS

Free Market in Pollution Rights Is Coming Soon

A trading market in pollution rights is an idea whose time appears to have come. It has been talked about nationally and on futures exchanges for some time, but now the South Coast Air Quality Management District (SCAQMD) in California has decided to launch such a free market next year. Many eyes will be watching.

Proponents—and there are many—believe trading pollution rights will give businesses greater flexibility in meeting environmental regs. Businesses that beat regulatory timetables get credits they can sell to those that can't or chose not to meet standards. Opponents fall in two categories: environmentalists who think businesses will use the program to escape cleanup somehow, adding to pollution; and those who think the market won't work. Some of the latter aren't against the program in principle, but think some of the specific ground rules will kill it.

The EPA proposed in December to allow the sale of rights to emit a certain amount of pollutants, starting in 1993. Initially 25,000 allowances would be sold directly to buyers at a fixed price of $1,500 each and about 250,000 would be sold at auction.

The Chicago Board of Trade, a commodity exchange, is seeking approval to begin trading of pollution allowance futures. This level of sophistication is a measure of the thought that has been given to the subject.

The SCAQMD is preparing a trading plan, with startup scheduled hopefully in early '93. The "Regional Clean Air Incentive Market" (RECLAIM), will eliminate conventional pollution controls on individual sources, such as refinery stacks and industrial boilers, and substitute separate markets for three pollutants—reactive organic gases (hydrocarbons), nitrogen oxides and sulfur oxides. Petroleum refineries would participate in all three markets.

SCAQMD will pick the 2,700 largest polluters of a district total of 17,000. Each would be assigned a share of total emissions based on its history. Over the first 10 years, the value of each share of reactive organic gases would decline 5% annually, nitrogen oxides 8% annually and sulfur oxides 8.5% annually. In other words, that percentage of cleanup would have to be attained annually or the company would have to buy rights from others. This is how cleanup would be achieved.

Arco opposes the plan as presently drawn because the scheduled emission reduction of about 85% during the period is "unreasonable and unimaginably cost prohibitive," Arco Products Co. President George H. Babikian told the board. He predicted a mass business exodus from the state and estimated it would cost Arco more than $250-million the next four years to meet the proposed reductions. But he added that Arco plans to remain in California, although "the company does not know how to make these annual reductions with existing technology."

Charles W. Aarni, Chevron regulatory agency liaison representative, expresses optimism that RECLAIM would work when it shakes down. He says, "One of the benefits of the program is that it provides a real economic incentive to develop new technologies. Under the current program, there's not a real strong incentive to go out and do a better job, because if you figure out how to do it better, then that will just be mandated for everybody else.

"Under the RECLAIM program, you can market that technology to everybody else, and they will have a strong incentive to use it if it's cost effective. I think it could provide some real positive incentives for developing ways that are better and cheaper. That's the key to it."

Aarni agrees with Arco, however, that the cleanup needs a limit. "One of the objections Arco has made—and I think they're absolutely right—is you have to pick a reasonable stopping point for the program. That stopping point needs to be identified in advance, and you have to know what it is." He says the SCAQMD staff knows this and will provide for it.

Whether the trading of pollution rights on a free market will ever reach down to the petroleum marketer level isn't clear. It won't in the California plan, as presently conceived, but perhaps will elsewhere as the idea spreads.

—Mark Emond

• MARKETPLACE AT A GLANCE

AVERAGE GASOLINE PRICES IN THE U.S. (per gal.)

JANUARY	Gasoline (All types)	Leaded Regular	Unleaded Regular	Unleaded Premium
U.S. City Avg.	$1.135	*	$1.073	$1.267
Regions				
Northeast	1.237	*	1.160	1.367
North Central	1.064	*	1.028	1.194
South	1.132	*	1.058	1.244
West	1.129	*	1.086	1.272

** Data no longer collected or available.*

Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

STOCKS (Add 000 bbl.)

	2/28/92	3/1/91
Gasoline (Total)	229,579	222,576
Unleaded*	185,962	172,632
Jet Kerosine	38,580	42,591
Distillates	108,427	103,258
Residual	42,909	46,014

**Leaded regular prices no longer collected by Bureau of Labor Statistics.*

Source: American Petroleum Institute.

Self-Serve Preference Still Growing

American motorists are pumping their own gasoline at a record pace as self-serve gasoline sales reached 85% of all gasoline dispensed last year. That's a 2% hike from the like period in 1990, according to market research conducted by Chicago-based Amoco Oil Co.

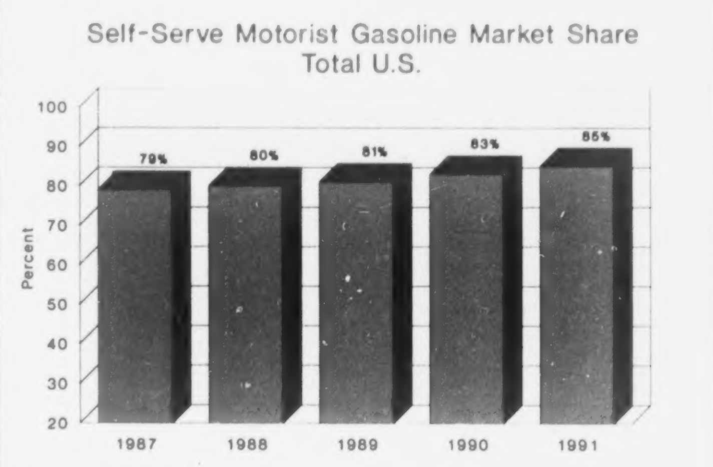
Competitive prices, quick service and the increasing availability of self-serve 24-hour service stations all contributed to the increase.

"Our research indicates that continued increases in the popularity of self-serve facilities can be expected in the next few years as the industry continues to update stations to meet the changing needs of today's motorists," says Harvey Carroll, market research specialist for Amoco.

The 1991 survey shows that self-serve market share in the U.S. increasing in 44 states and the District of Columbia. The largest gains were in New Hampshire and Pennsylvania, where market share in both states increased 6% to 77% overall.

Arizona, Colorado, Florida and New Mexico led the nation in self-serve usage with 96%, closely followed by Nevada, Texas, Utah and Washington at 95%, according to Amoco.

The self-serve market share declined by 1% in Utah and remained status quo in Wyoming. Self-serve facilities are prohibited in Oregon and New Jersey.



Self-Serve Motorist Gasoline Market Share by State (Percent) Total 1991 vs. Total 1990

State	1991	1990	Chg.
Alabama	88	85	+3
Arizona	96	95	+1
Arkansas	89	87	+2
California	94	93	+1
Colorado	96	95	+1
Connecticut	81	77	+4
Delaware	92	88	+4
Dist. of Col.	91	89	+2
Florida	96	94	+2
Georgia	93	91	+2
Idaho	92	91	+1
Illinois	93	91	+2
Indiana	90	89	+1
Iowa	91	87	+4
Kansas	90	87	+3
Kentucky	84	83	+1
Louisiana	94	93	+1
Maine	65	62	+3
Maryland	90	89	+1
Massachusetts	62	57	+5
Michigan	92	90	+2
Minnesota	88	86	+2
Mississippi	89	86	+3
Missouri	90	88	+2
Montana	93	92	+1
Nebraska	87	83	+4
Nevada	95	94	+1
New Hampshire	77	71	+6
New Mexico	96	92	+4
New York	67	63	+4
North Carolina	93	91	+2
North Dakota	87	84	+3
Ohio	91	88	+3
Oklahoma	90	89	+1
Pennsylvania	77	71	+6
Rhode Island	73	71	+2
South Carolina	93	91	+2
South Dakota	85	83	+2
Tennessee	90	87	+3
Texas	95	93	+2
Utah	95	96	-1
Vermont	68	61	+7
Virginia	93	91	+2
Washington	95	94	+1
West Virginia	85	81	+4
Wisconsin	93	92	+1
Wyoming	87	87	NC

Chevron Reports Savings From New Fuel Delivery Software

Chevron Corp., San Fransisco, says a field test of new fuel delivery software has successfully reduced costs at 130 company-operated outlets in the Dallas region. Software used in the test was developed by Applied Information Management Systems, Inc. (AIMS), Monroe, La.

Chevron officials note savings have been achieved in reducing returns (when a delivery truck has to return with fuel still in it) and run outs (when an underground storage tank runs out of fuel). The AIMS system uses store-based touchtone telephone hookups that transmit daily tank inventory data to a home office personal computer. This information is then used to dispatch daily fuel deliveries to company outlets.

Chevron territory manager Jerry Turner reports a savings of $40,000 and $33,500 for the month of February, respectively, in reduced returns and run outs. He adds that those savings figures don't include improved truck utilization or the pricing aspects of the program. The AIMS system cost Chevron $11,000-$12,000, Turner says.

The new system also eliminated the need for EPA testing of underground storage tanks at $6,000/site, Turner says, since the system itself checks the tanks two times a year.

Turner says Chevron plans to expand the AIMS system into Houston, New Orleans and the company's entire central region.

Officials with AIMS say they are in negotiations with several major oil companies for future deals with their system, including the Canadian arm of one major oil company. Sources say that for the Canadian project, AIMS is reprogramming the software to accommodate the metric system.

REFINERY CRISIS:

What It Means to Oil Marketers

The refinery landscape in the United States is due for big changes. Oil marketers are forewarned to become as well-informed as possible about how their suppliers are reacting to environmental regulations, and also to keep making best judgments on whether their suppliers will pull out of one market or another or go under.

Marketers' futures depend on it. Many independent refiners, especially the smaller ones, won't be able to come up with the huge investments required to market reformulated gasolines and diesel fuels in markets that have too much air pollution.

By Mark Emond
Staff Reporter

These markets are determined by the federal Environmental Protection Agency (EPA) and various other environmental agencies at state, county or local levels.

The federal Clean Air Act Amendments of 1990 (CAAA) call for gasolines that will have to be modified substantially during the remainder of the decade. EPA is empowered to regulate what must be done. In the process, it is sealing the fate of some refiners.

The regulatory climate is very complex and getting more so, but here's a brief summary of the principal issues facing refiners—and indirectly marketers. This summary will be expanded to show where refiner vulnerabilities are so that marketers can get ready for withdrawals and failures.

In a nutshell

Most vulnerable to the new regulations are refineries that make gasoline to sell in "nonattainment areas," that is, areas where the air has not attained a level of cleanness established by the EPA or other agency. The federal regulatory standards apply to two classes of pollutants: ozone and carbon monoxide (CO).

There are nine metropolitan areas considered dirtiest in ozone, but there are 87 more in various degrees of noncompliance with EPA standards (see box). Gasoline sold in the nine

areas will have to be reformulated by 1995.

The remaining areas can voluntarily join the program, with EPA approval. This possibility is potentially overwhelming for refiners. EPA can delay the requested participation up to three years, which is a buffer, but of unknown proportions. This is a huge unknown factor that will have to be minimized before most refiners can know what to do. More than half of the U.S. population resides in these areas, mostly metropolitan.

In the nine worst areas and any others that opt in, gasoline will have to be reformulated to reduce emission of components that increase ozone levels. Final specifications have not been determined, but EPA already requires by 1995 the elimination of lead, a maximum of 25% by volume of aromatic compounds, a maximum of 1% by volume of benzene and a minimum of 2% by weight of oxygen.

The CAAA also requires that volatile organic compounds (VOCs) and toxic emissions be reduced 15% by 1995 and 25% or more by 2000.

Although the final rules for 1997 have not been specified in this case either, negotiations with the oil industry have produced a tentative agreement on how to achieve these standards: limiting volatility (RVP, or Reid Vapor Pressure) to 7.2-psi (lb./sq.in.) at the pump in southern ozone nonattainment areas (Class B) and 8.1-psi in northern ozone nonattainment areas (Class C). In both cases, the limits are lower at the refinery gate to ensure compliance at the point of purchase.

A total of 41 areas—3 serious and 38 moderate (see box)—fail to meet EPA standards for atmospheric carbon monoxide levels in the winter. They represent 27% of the U.S. gasoline market. The CAAA requires that beginning in November 1992 gasoline sold in those areas must contain, on average, 2.7% oxygen by weight.

Most refiners plan to do this with MTBE (methyl tertiary butyl ether), if they can obtain enough to meet their requirements (see sidebar). Ethanol also

CARBON MONOXIDE (CO) NONATTAINMENT AREAS (41)

Serious Areas

Los Angeles-Anaheim-Riverside, Calif.
Steubenville-Weirton, Ohio, W.Va. (nonmobile)
Winnebago Co., Wis. (Oshkosh) (nonmobile)

Moderate Areas

Albuquerque, N.M.
Anchorage, Alaska
Baltimore, Md.
Boston-Lawrence-Salem, Mass., N.H.
Chico, Calif.
Cleveland-Akron-Lorain, Ohio
Colorado Springs, Colo.
Denver-Boulder, Colo.
Duluth, Minn., Wis.
El Paso, Texas
Fairbanks, Alaska
Fort Collins-Loveland, Colo.
Fresno, Calif.
Greensboro-Winston Salem-High Point, N.C.
Hartford-New Britain-Middletown, Conn.
Josephine Co., Ore.
Klamath Co., Ore.
Las Vegas, Nev.
Medford, Ore.
Memphis, Tenn., Ark., Miss.
Minneapolis-St. Paul, Minn., Wis.
Missoula Co., Mont.
Modesto, Calif.
New York-No. N.J., Long Island, N.Y., N.J., Conn.
Philadelphia, Wilmington, Trent, Pa., N.J., Del., Md.
Phoenix, Ariz.
Portland-Vancouver, Ore., Wash.
Provo-Orem, Utah
Raleigh-Durham, N.C.
Reno, Nev.
Sacramento, Calif.
San Diego, Calif.
San Francisco-Oakland-San Jose, Calif.
Seattle-Tacoma, Wash.
Spokane, Wash
Stockton, Calif.
Syracuse, N.Y.
Washington, D.C., Md., Va.

will be used, but its role is not clear at this time. Some marketers say it is being priced out of the picture in some areas where it does not have tax exemptions.

In summary, according to federal regulations, refiners must include oxygenates in gasoline in those areas during the winter in 1992, produce reformulated gasoline in 1995 and produce even stricter reformulated gasoline in 1997 and again in 2000.

For diesel fuel, the CAAA requires a reduction of the sulfur content to no more than 0.05% (1/2 of 1%) by weight beginning in October 1993. This reduction applies to the entire nation and will affect about 42% of diesel fuel and home heating oil consumption.

Plans and preparedness

It becomes obvious that, in the case of gasoline, a refinery's marketing area has a lot to do with how much or little it decides to do to the plant, what or how much of products to make or not make and where to sell or not to sell. These decisions will affect marketers who buy or plan to buy from the refiner in the future.

The key questions are "What are refiners doing, if anything?" and "What do they plan to do in the future, if anything?"

A survey of refiners by Cambridge Energy Research Associates (CERA) for the Dept. of Energy analyzes the degree of preparedness of refiners to meet the requirements of the CAAA, shedding much light on the strong and the vulnerable. CERA is a heavyweight research organization whose president is Daniel Yergin, energy specialist, author of the recently acclaimed history of the oil industry, *The Prize: The Epic Quest for Oil, Money & Power*.

From the more than 100 refining companies operating in the U.S., CERA obtained confidential responses from 35, representing 50% of U.S. refining capacity. The companies operate 85 refineries ranging in output from 8,000 b/d to more than 400,000 b/d. The survey includes at least 40% of the refineries in all regions of the U.S. except PADD 5 (West Coast), which is dominated by a few majors, where 13 refineries were included.

On reformulated gasoline, the survey reveals a broad range of plans, from refiners planning to produce none to some planning to produce 100%.

The refinery improvements planned are broadly dependent on the market position of the refiner: those with a large share of their production going into one or more of the nine worst ozone nonattainment areas, those with large market share in one or more of the 87 other areas that could opt into the programs and those that sell little or no gasoline into areas that are or might be covered by CAAA.

Refiners that supply a significant portion of their gasoline volume into one or more of the worst ozone nonattainment areas seem to have the most fully developed plans, CERA says.

Many of the independents, smaller refiners and Midcontinent/Rocky Mountain refiners are less certain about their plans. There are three major causes for this uncertainty: (1) whether cities in their trade areas would opt in and require reformulated gasoline, and if so, when; (2) lack of definitions of exactly what gasoline specifications they eventually would be required to meet; and (3) uncertainty surrounding the administration and enforcement of CAAA regulations.

As to the uncertain opt-ins, CERA says there is a wide variety of plans for dealing with them. Generally, the planned actions depend on the refiner's size, financial strength and estimates of the impact of opt-ins and other factors on its particular market. Here's the range of plans:

- Some companies with small volumes going into potential opt-in areas are planning no changes in their operations. If areas where these companies are currently supplying gasoline opt in, these refiners plan to pull out of those areas and concentrate on others.
- Other refiners are taking a wait-and-see attitude—holding off on any commitments until the opt-in situation clarifies. However, they plan to modify their operations eventually if needed.
- Typically, refiners planning no immediate changes are smaller independents, many located in the Midcontinent area.
- Finally, there are a number who plan to take immediate steps toward reformulating their entire pool in anticipation of widespread opt-ins.

CERA concludes that despite the uncertainties, most refiners do have at least a preliminary assessment of what changes they would eventually make and how much they would cost. Nearly everyone is studying the issues extensively.

Refiners may find themselves making even more oxygenated and reformulated gasoline than legislation requires, because of the complexities of the gasoline distribution system. The more expensive gasoline will be sold in some areas that do not have substandard air quality, probably at a loss in margin. Chem Systems Inc. (CSI), Tarrytown, N.Y., estimates this spillover will be 30%. Other estimates are significantly higher.

Bonner & Moore Management Science, Houston, corroborates this conclusion generally. The company says, "Logistical considerations will extend the market range of reformulated gasoline well beyond the nonattainment area borders. A majority of the U.S. market is likely to be affected."

The costs

Ever since motor fuel changes were ordered by EPA, economists of many stripes have estimated what these changes will cost refiners. The highest estimate known here is $40-billion for the whole industry, which includes capital outlays and operating costs. This estimate is higher, but broader, than most others.

Some agreement is emerging in the area of $10-billion to $20-billion for industrywide investment in refining processes. Not included in these estimates are additional outlays that can go along with the changes, for example, segregating reformulated fuels within marketing and distribution systems, cleaning up ground and water pollution and reducing fugitive emissions into the air.

Ashland Oil Inc. estimates the cost will be $9-billion to $13-billion.

Wright Killen & Co., Houston, a consulting firm, estimates process investments will be $12-billion to $20-billion. For a refinery capable of 100,000 b/d of crude runs, a $20-million to $100-million investment would be needed.

The survey by CERA comes close to this. Total capital expenditures estimated by responding refiners, representing 44% of U.S. distillation capacity, were $7.1-billion. Extrapolating this estimate to the whole refinery population, the total is $16.1-billion.

The $7.1-billion estimate covers only three major categories of expected expenditures: $0.3-billion for crude-oil quality changes, $4.8-billion for anticipated changes in gasoline quality and $2.0-billion for low-sulfur diesel.

The average expenditure for the refining companies in the CERA survey for these three categories of expenditures is about $900/bbl. of crude distillation capacity. A 100,000 b/d refinery would spend $90-million. This agrees reasonably with the Wright Killen estimates.

Some 97% of surveyed refiners say they planned to invest in new refining facilities to manufacture reformulated gasoline, though not necessarily right away. The average estimated investment by refiners that provided estimates was $594/bbl. of crude distillation capacity. This includes refinery expansions and modifications, but excludes MTBE plants.

Gasoline specifications for the manufacture of MTBE for the year 2000 and beyond, which are supposed to be defined in 1992, will be more stringent and will require additional refinery investment.

Wright Killen concludes that faced with such expenditures, some refiners will be forced to divest assets, close some plants

OZONE NONATTAINMENT AREAS (96)

Extreme Areas

Los Angeles, Calif.

Severe Areas

Baltimore, Md.
Chicago, Ill., Ind., Wis.
Houston, Texas
Milwaukee, Wis.
Muskegon, Mich.
New York, N.Y., N.J., Conn.
Philadelphia, Pa., N.J., Del., Md.
San Diego, Calif.

Serious Areas

Atlanta, Ga.
Bakersfield, Calif.
Baton Rouge, La.
Beaumont, Texas
Boston, Mass., N.H.
El Paso, Texas
Fresno, Calif.
Hartford, Conn.
Huntington, W.Va., Ky., Ohio
Parkersburg, W.Va., Ohio
Portsmouth, N.H., Maine
Providence, R.I.
Sacramento, Calif.
Sheboygan, Wis.
Springfield, Mass.
Washington, D.C., Md., Va.

Moderate Areas

Atlantic City, N.J.
Bowling Green, Ky.
Charleston, W.Va.,
Charlotte, N.C., S.C.
Cincinnati, Ohio, Ky., Ind.
Cleveland, Ohio
Dallas, Texas
Dayton-Springfield, Ohio
Detroit, Mich.
Grand Rapids, Mich.
Greensboro, N.C.
Jefferson Co., N.Y.
Kewaunee Co., Wis.
Knox Co., Maine
Louisville, Ky., Ind.
Memphis, Tenn., Ark., Miss.
Miami, Fla.
Modesto, Calif.
Nashville, Tenn.
Pittsburgh, Pa.
Portland, Maine
Raleigh-Durham, N.C.
Reading, Pa.
Richmond, Va.
Salt Lake City, Utah
San Francisco-Oakland-San Jose, Calif.
Santa Barbara, Calif.
Smyth Co., Va.
St. Louis, Mo., Ill.
Toledo, Ohio
Visalia, Calif.
Worcester, Mass.

Marginal Areas

Albany, N.Y.
Allentown, Pa., N.J.
Altoona, Pa.
Birmingham, Ala.
Buffalo, N.Y.
Canton, Ohio
Columbus, Ohio
Erie, Pa.
Essex Co., N.Y.
Evansville, Ind., Ky.
Fayetteville, N.C.
Greenbrier Co., W.Va.
Greenville-Spartanburg, S.C.
Hancock, Co., Maine
Harrisburg, Pa.
Indianapolis, Ind.
Johnson Co.-Kingsport-Bristol, Tenn.
Johnstown, Pa.
Kansas City, Mo., Kan.
Knoxville, Tenn.
Lake Charles, La.
Lancaster, Pa.
Lewiston, Maine
Lexington, Ky.
Lincoln Co., Maine
Manchester, N.H.
Montgomery, Ala.
Norfolk, Va.
Owensboro, Ky.
Paducah, Ky.
Poughkeepsie, N.Y.
Scranton, Pa.
South Bend, Ind.
Stockton, Calif.
Sussex Co., Del.
Tampa, Fla.
Waldo Co., Maine
York, Pa.
Youngstown, Ohio-Sharon, Pa.

and consolidate operations into fewer, larger plants, or abandon refining as a strategic business.

A closer look

Because CERA's estimates are based on actual responses from refiners, they offer an opportunity to delve deeper into what these investments mean to refiners of different sizes in different areas.

Midcontinent and Rocky Mountain refiners plan to spend far less per gallon of gasoline sold to nonattainment areas than refiners in the other areas of the United States. There are three major reasons for this difference:

- Some refiners plan to use exchanges to supply their ozone nonattainment markets rather than invest extensively in process changes. (The same is true for some small East Coast refiners who sell limited volumes of gasoline into nonattainment areas. However, the number for the East Coast is limited, since the East Coast market is dominated by nonattainment areas.)
- The percentage of reformulated gasoline per refiner is relatively small because there are fewer nonattainment areas, so that more of the requirement can be met through changes in blending.
- Many refiners will be affected only if ozone nonattainment areas opt in. As a result, they're delaying investments until they're clearer which areas will do so.

CERA concludes also that Gulf Coast refiners will invest more per gallon of gasoline sold in nonattainment areas than Midcontinent refiners, despite having roughly the same regional demand characteristics. This is due primarily to the large amount of gasoline exported from the Gulf area to the U.S. East Coast where demand for reformulated gasoline will be high.

In general, the refiners in the Gulf area that plan to invest the most per gallon of total gasoline production are those that depend most heavily on the East Coast markets. Gulf area refiners that sell most of their production within the region are planning to spend much less.

Economies of scale

Logically, environmental requirements should impact more heavily on small refiners than on large, because expenditures must be spread over less volume, but CERA didn't find that to be the case. It's because small refiners have alternatives that can help them avoid the heavier expenditures of larger refiners.

For example, small refiners east of the Rockies have alternatives to making major investments to produce reformulated gasoline. These alternatives generally result from access to markets in attainment areas or areas that may not require reformulated gasoline until after 1995.

Specifically, small refiners east of the Rockies can supply nonattainment areas through exchange, concentrate sales efforts on attainment areas and withdraw from nonattainment markets and reformulate only a portion of their gasoline pool.

CERA found that a combination of these three options is the planned strategy of several refiners responding to the survey. Smaller refiners are on average spending no more per barrel of gasoline produced than large refiners.

The $290-million hydrocracker/reformer units at the Valero refinery in Corpus Christi, Texas, began operations in January 1992. The hydrocracker is the large unit in the right foreground of the picture, while the reformer consists of the two tall structures in the left background.

Larger refiners can't do the same because of their greater sales in nonattainment areas.

However, the expected economies of scale could emerge in the future if smaller refiners are forced to produce more reformulated fuel. This could occur if there are widespread opt-ins of ozone nonattainment areas, if current nonattainment areas are redefined on a broader geographic basis, such as statewide, and if the distribution system proves unable to handle multiple grades, forcing refiners to sell significant volumes of reformulated gasoline into areas where it is not required.

In CERA's view, refineries east of the Rockies have more flexibility in meeting CAAA requirements, but they may be narrowing their opportunities by cutting themselves off from future participation in nonattainment markets. Moreover, the small refiner that delays investment runs the risk of being at a more severe disadvantage to the larger refiner than might otherwise have been the case.

Economies of scale didn't show up on the West Coast either, but for different reasons. CERA says small refiners there have only three alternatives: (1) to make the investments necessary to produce 100% reformulated gasoline, (2) to discount their gasoline sufficiently to make its export consistently possible, or (3) to sell their gasoline as an unfinished blending component at a significant discount.

CERA says that faced with these alternatives, small West Coast refiners surveyed plan to take the first alternative: make 100% reformulated gasoline. But some of the smaller refiners didn't respond to the survey, and CERA cautions that refiners who answered operate only 24% of the total capacity of the region and represent primarily the midsized refiners. The generalization might not apply to smaller refiners.

Recovering the investment

Because of the wide range of plans to manufacture reformulated gasoline and diesel fuel, some refiners are likely to find ways to do it more economically than others. Petroleum processing is a complex technology that allows different approaches, some costlier than others and with varying efficiencies. Capital costs vary, too.

Refiners that make the transformations most efficiently will have lower costs and will therefore be in a position to establish the price levels. In other words, the cheaper product will tend to set the price. As costs get passed through to the marketplace, the less efficient will likely not be able to recover their costs fully, if anybody does.

Estimates of Gasoline, MTBE Demand in CO Nonattainment Areas*

	Population (000)	Gasoline Demand (000 b/d)	MTBE Equivalent Demand During Winter Months (000 b/d)*
PADD 1	37,595	922	138
PADD 2	6,657	206	31
PADD 3	1,079	35	5
PADD 4	2,753	81	12
PADD 5	33,094	1,024	154
U.S.	81,178	2,269	340

Sources: Stastical Abstract of the U.S.; Cambridge Energy Research Associates

** Assumes no spillover into other areas, although considerable spillover is expected.*

Note: PADD 1, East Coast; 2, Midwest; 3, Southwest; 4, Rockies; 5, West Coast

Production of MTBE and other oxygenates required for carbon monoxide nonattainment areas will be short this winter, but most analysts believe stocks built up in advance of the season are likely to carry through. With the wide variation in requirements from region to region, however, supplies could be short in some areas, particularly the East and West Coasts.

The potential risk of unrecovered costs depends on the range of expenditures that will be required for each reformulation. In the case of reformulated gasoline required by 1995, CERA estimates the total costs—production, purchased components, and capital—will average 11.4¢/gal.

Production costs will be 5.7¢/gal. more than for conventional gasoline. Capital costs, plus a 15% rate of return, are estimated to average 3.2¢/gal. Costs for refiners on the West Coast would be about 30% higher than this national average.

The cost of oxygenate purchased in excess of the volumes that can be produced at refineries is estimated to add an average of about 2.5¢/gal. of reformulated gasoline nationwide.

These investments do not reflect the more stringent reformulations required in 1997 and even more stringent reformulations in 2000.

The manufacture of low-sulfur diesel fuel is estimated to cost 4-7¢/gal., including capital recovery and operating costs.

The variable cost of capital also will determine how much of the expenditures can be recovered in the marketplace. Small refiners are more likely to require external debt financing. CERA reports there has been uniform lack of interest by financial institutions in low-cost alternatives, such as project debt or joint ventures, thus requiring the use of higher-cost corporate debt securities.

Large refineries in integrated oil companies have access to cheaper, internal capital. They have deeper pockets and stronger staying power.

Some analysts believe small refiners have inherently poor economics and won't be able to comply with the new regulations. One sets 25,000 b/d as the breaking point, and thinks all 50 could fail, shutting down 500,000 b/d of crude capacity. He thinks even refiners with up to 50,000 b/d could also fail, shutting down another 1.5-million b/d of capacity. He says 500,000 b/d is the least that will go offstream.

The analyst's point is that enough refining capacity will be shut down in the next two or three years to shrink refining capacity and cause profit margins—and prices—to increase. Even if this doesn't take place nationally, it will probably happen in some refinery areas.

Calif. revolution

Federal regulations are causing refiners a multitude of problems, that's clear. And then there's the case of California. Refiners that sell or want to sell gasoline or diesel fuel in that state are looking into the regulatory jaws of the next century.

As exceptional as California's reformulated gasoline recipe may be, it won't be for long. Washington, D.C., and most Northeast states have adopted the program, plus Virginia. Many other states are sure to follow.

The EPA, however, appears to be planning to move slower. The EPA will further tighten the screws on gasoline by 1997, and still more by 2000, but may not reach California's degree of strictness. One reason is that uniform federal standards would cover many geographical areas that don't need such Draconian measures.

California put strict limits on just about every gasoline specification: RVP, sulfur, aromatics, benzene, olefins, oxygen and distillation range [*NPN*—Jan. '92, p19]. Every refiner except Arco complained that the regulations were excessive and their goals could be accomplished for a lot less, but Arco wants gasoline to be made so clean, methanol fuel couldn't compete.

U.S. auto manufacturers also support strict regulations so that they can meet their own mandated emission standards.

Beginning in 1996, all major and two large independent refiners (55,000 b/d and over) in California will have to meet the stringent new formula. In 1998, small refiners will be included. The California Air Resources Board (CARB) estimated the changes would cost consumers 12-17¢/gal. and refiners $2.5-billion. California refiners estimated the cost would be 20-28¢/gal. for consumers and $6-billion to $10-billion for refiners.

California's oxygen standard for gasoline is 1.8-2.2% by weight in winter. The 2.2% cap restricts ethanol content to 6%, which doesn't qualify for the 5.4¢/gal. federal tax exemption on gasohol (10% ethanol). Ethanol interests argued for no cap or a 3.5% cap, which would've permitted blending 10% ethanol into gasoline. The state contends too much oxygen worsens nitrogen oxide omissions.

As mentioned earlier, CERA says responding midsized refiners and some

Percentage of Gasoline Sales in Nonattainment Areas

	Carbon Monoxide (Worst 9, 1995)	Ozone (All 41, Nov. '92)
PADD 1	39%	67%
PADD 2, 4	12	41
PADD 3	3	29
PADD 5	82	69
U.S.	32%	52%

Source: Cambridge Energy Research Associates

Note: PADD 1, East Coast; 2, Midwest; 3, Southwest; 4, Rockies; 5, West Coast

The burden on refineries to meet gasoline reformulation deadlines varies dramatically by region depending on the amounts of gasoline supplied to nonattainment areas. The greatest variation is between PADD 3, the Southwest, and PADD 5, the West Coast, for CO monattainment areas. Most refiners in PADDs 2 and 4 are focusing expenditures on upgrading distillate quality since diesel fuel accounts for a large portion of their middle-distillate sales. Overall, refiners in PADDs 1 and 3 will produce a larger portion of their products for nonattainment areas than those in PADDs 2 and 4. Refiners in PADD 5 have the greatest expenditures, mainly because all refineries there are producing for markets that are nonattaining for all major categories of pollutants.

small refiners on the West Coast plan to make 100% reformulated gasoline. What the rest of the smaller refiners will do isn't known, and it is cause for considerable concern to oil marketers. Some, no doubt, will decide to shut down. In fact, two recently shut down—they say temporarily—because product prices were so poor.

If most refiners have made peace with California's gasoline regulations, they have not done so with the diesel fuel regulations. They say a limit of 10% aromatics probably cannot be achieved. Some have already announced they won't market diesel fuel in California.

Beginning Oct. 1, 1993, both California and the EPA mandate reduction of sulfur to 0.5% by weight. Technology exists and investment decisions have already been made to accomplish this. A California Energy Commission (CEC) study estimates that this will cost large refiners 1-3¢/gal. and small refiners 7-51¢/gal.

CARB has taken the additional step of requiring that large refiners limit aromatics in all on-highway diesel sold in the state to 10% by volume, and small refiners to 20%. The EPA is satisfied nationally to keep diesel aromatics at current levels. Refiners can accomplish this two ways: either with a minimum cetane index of 40 or with an aromatics limit of 35%. This is not a problem for refiners.

The CEC study estimates that the combined costs of the sulfur and aromatics limits for large refiners, would be 11-28¢/gal. and for small refiners 16-70¢/gal.

The CEC study concludes, "The cost disadvantage to small refiners is significant and may render them unable to compete in California's diesel market."

CEC says, too, "Uncertainty about certification of an alternative diesel fuel will be a factor in investment decisions. If the industry perceives the uncertainty as too great, capital investment could shift to other segments of the refining process, such as oxygenated fuels, reformulated gasoline, or aviation fuels. Diesel supplies would thereby be reduced.

"If the industry is unable to meet the new regulations in the time allotted, or chooses to market diesel fuel outside California rather than invest in refinery modifications, a supply shortage within the state may occur."

CEC says refiners could choose to sell their conventional diesel fuel across the state border, causing prices to rise in California, which would be especially harmful for trucking and agriculture.

Keeping tabs

The toll on refiners has begun and will gain momentum the next few years. A key to a marketer's future is planning ahead, as much as possible, for refiner cutbacks, pullouts and failures. Some marketers may decide to establish better bonds with major oil companies and independents committed to survive.

The majors that make the necessary changes most efficiently will be in the strongest competitive position. It bears watching.

Marketers can mull the many pros and cons of branding up, but they'd be missing the point, under present and near-term circumstances, if they didn't rate guarantee of supply at or near the top. There's no assurance, of course, that all majors will stay in all the markets they're in now, but they're not going to pull out because they can't produce the quality of motor fuel mandated in polluted areas.

Major oil companies and large surviving independents are likely to produce as much gasoline and diesel fuel saleable anywhere as they are producing now, maybe more. Small refiners and independents that don't have the financial means to make necessary refinery modifications may have to reduce production of gasoline and diesel fuel in some markets, or even entirely.

Knowing all this in general is not good enough. Each marketer must do his or her own homework, keeping tabs on all current and prospective suppliers. Almost all refiners are playing their cards close to their vests. There may not be much warning if they decide to throw them in.

OXYGENATES

Crisis Within a Crisis

If you had purchased a piece of an MTBE (methyl tertiary butyl ether) manufacturer a couple of years ago, you'd be holding a valuable property now. There's a run on the leading oxygenate, and many refiners fear there may not be enough to go around this winter.

Beginning in November this year, gasoline sold in 41 metropolitan areas in the U.S. that currently fail to meet the Environmental Protection Agency (EPA) standards for atmospheric carbon monoxide (CO) in the winter must contain 2.7% oxygen by weight (see box).

Cambridge Energy Research Associates (CERA), in an estimate based on a population of 81.178-million in the CO nonattainment areas, concluded gasoline demand will be 2.269-million b/d next winter, requiring 340,000 b/d of MTBE equivalent. Needed supplies will be greater than this, however, because sales of oxygenated gasoline spill over into other areas in the nature of the distribution system.

Analysts say oxygenate supply will also have to include ethanol and TAME (tertiary amyl methyl ether). Ethanol, because of its cost, will be used mostly in areas where it is subsidized. There are several other ether candidates being tested in laboratories, but MTBE is the only one now used widely in gasoline blending.

There's no consensus whether refiners and blenders will run into oxygenate supply troubles next winter. CERA concludes optimistically, "Oxygenate supplies for the winter 1992-'93 are expected to be adequate. Production capacity during the winter will fall short of requirements by 46,000 b/d to 126,000 b/d, but the industry should be capable of building inventories in advance to fill the gap."

This is a middle-of-the-road assumption. In a worst-case view, CERA says supplies from current production and imports could fall short of demand by 213,000 b/d. In a best-case view, supply could exceed demand by 24,000 b/d and no prestocking of oxygenates would be required.

Under any of these cases, California will import the vast majority of its oxygenate supplies from Canada and other areas of the United States.

Chem Systems Inc. (CSI), Tarrytown, N.Y., says that to meet projected demand, including spillover, an additional 100,000 b/d of MTBE from storage is required, and this is "highly unlikely."

Bonner & Moore, management consultants, forecasts MTBE capacity will reach 160,000 b/d by next winter and be about 150,000 b/d short of the peak season requirements. Imports could offset about 50,000-60,000 b/d of the shortfall, they say, but this is not enough and EPA will delay enforcement or lower required levels.

A genuine shortage could hardly be considered noncompliance by EPA. When CERA surveyed MTBE manufacturers, it found a large number of plants in various stages of planning or construction. CSI says that by 1995, when clean-fuel requirements expand from CO nonattainment areas to include nine ozone nonattainment areas, significant new supplies of MTBE and TAME will be available. Everybody agrees manufacturing capacity isn't sufficient, but hopes are pinned on imports and MTBE inventories that have been built up in preparation for winter.

NPN Exclusive Survey

Retail Outlet Count Edges Down, But Is Still Over 200,000

By NPN Staff

Early in 1992, there were 202,443 retail outlets in the United States selling gasoline to the motoring public. This figure represents a decline of 7,677 outlets (3.8%) compared to the total outlet population of 210,120 reported during the same period in 1991.

The decline in the retail gasoline outlet population should come as no surprise to anyone who has been following events in the petroleum market over the past year. Economic recession, reduced product demand, volatile price swings and burdensome environmental regulations have taken their toll, particularly among retailers with marginal facilities. The surprise, perhaps, is that under these circumstances, less than 4% of retail outlets have gone under.

This latest population count is derived from the second-annual retail gasoline outlet survey conducted by the editorial staff of *National Petroleum News*. To compile this data, *NPN* staff members contacted officials in every state in the union and the District of Columbia.

202,443

NPN adopted this survey method last year to provide the petroleum marketing industry with a more accurate and confirmable universe figure than the hodgepodge of guesses and highly selective and limited "counts" that have been circulating in the past 10 years or so.

Early in 1991, *NPN* set out to determine the total number of places where motorists can buy gasoline for their vehicles at retail pumps [*NPN*—April '91, p26]. This includes conventional "service stations," convenience stores, car washes, unattended outlets, truckstops, garages, etc.; anywhere that gasoline is sold at retail. Unfortunately, many thousands of these facilities have been ignored or have simply slipped through the cracks in previous market surveys.

This new counting concept dispenses with the arbitrary definition of "gasoline service stations" adopted by the U.S. Census Bureau's, *Census of Retail Trade*, conducted every five years. In its last two official nose counts—in 1982 and 1987—the Census Bureau simply lopped off tens of thousands of legitimate gasoline retail outlets. The Bureau eliminated Mom-and-Pop retail outlets and counted only those with employees and formal payrolls. What's more, they classified as "service stations" only those outlets that generated 50% or more of their annual revenue from gasoline sales.

Under the Bureau definition, a convenience store selling $700,000/yr. of store merchandise, for example, and $680,000/yr. of gasoline (about 50,000 gal./mo.) would be excluded from its tally.

The Census Bureau's survey methodology, using the 50%/payroll definition, largely discounts the tremendous growth of the convenience store presence in the petroleum market during the past 15 years or thereabouts. *NPN's* survey, on the other hand, counts these neglected C-store/gasoline combinations, along with all other retail gasoline facilities orphaned by the Bureau's tally.

Target the states

Lacking data from government or any other national source that reflected the true dimensions of the retail gasoline market, *NPN's* survey task force—including editors Angel Abcede, Steve Dwyer, Mark Emond, Alicia Lasek, Greg Lindenberg and Don Smith—focused its numbers quest at the state level.

It should be noted at the outset that many states do not have "official" figures or procedures for isolating, for counting purposes, retail gasoline outlets from other types of business. This includes the motor vehicle, licensing and tax departments or divisions in more than half of the states.

The lack of official counts by many of these departments prompted *NPN*'s survey staff to pursue other responsible sources in state administrations who have reasonable knowledge of their state's gasoline marketplaces and are in a position to make reliable estimates. These included officials with state weights and measures departments which, while not responsible for station totals, were responsible for tracking every retail gasoline pump in operation.

NPN also contacted key trade association executives because of their specialized knowledge of their markets.

As a result, approximately two-thirds of the figures compiled by *NPN* are "hard" numbers—figures based on registration, licensing and tax division reports. The data for the remaining one-third of these states range from unofficial estimates to "guesstimates" in a couple of states based on the best available information.

Accounting for differences

A review of the state data in the accompanying table would seem to indicate some of the state totals are out of whack, in terms of the ratio of outlets to total state population, especially when compared to the numbers in other, more populous states.

State demographics such as urban-rural concentrations figure prominently in determining the number of outlets a particular state has.

North Carolina, for example, reported a outlet count of 10,244 at the beginning of this year, a much higher figure than those reported for several more populous states. North Carolina has a very accurate annual reporting procedure that collects all retail gasoline outlet data on a county-by-county basis, indicating that the state's numbers are highly reliable. But, as one state association official points out, the state has a much higher proportion of small, rural, 10,000-20,000 gal./mo. locations, giving North Carolina a higher per capita outlet count than more populous states such as New York.

It's interesting, too, to compare North Carolina's detailed state-generated numbers for 1991 with those "50 percenter" stations tallied in the Census Bureau's 1987 figures. The state people came up with a total almost three times the number recorded by the Bureau. It appears there are over 6,000 retail gasoline outlets in the state that the world didn't know about until last year.

For this 1992 report, *NPN*'s staff has fine-tuned the research and the data presented for a few states, based on more reliable information being available this time around. Illinois is one example. Last year, despite contacts with every source *NPN* could identify, the numbers published for the state, which were based on an "educated guess" offered by an Illinois state official, turned out to be unrealistically high, to say the least. This year, a thorough search by staffers turned up a more reliable and authoritative number from a source at Illinois' Weights and Measures Div.

As indicated in last year's report, *NPN* plans to update its state-by-state outlet tally every year. Since some states are already improving their counting procedures, it's expected that future surveys will become more accurate with each passing year. **npn**

1992 Retail Outlet Population

	Total Outlets			
	NPN Survey		Census Data	
	1992(a)	1991(a)	1987(b)	1972(c)
Alabama	6,500	6,500	2,229	4,510
Alaska	296	300	214	241
Arizona	2,425	4,010	1,241	2,357
Arkansas	3,592	3,764	1,357	3,144
California	13,140	13,800	9,812	19,513
Colorado	3,281	3,400	1,568	3,170
Connecticut	1,850	1,900	1,671	2,798
Delaware	508	450	279	557
Dist. of Col.	180	134	115	318
Florida	10,062	10,152	5,933	9,199
Georgia	7,000	7,000	3,273	6,730
Hawaii	407	392	355	480
Idaho	1,073	1,123	588	1,193
Illinois	5,749	10,100	4,655	10,211
Indiana	3,901	4,500	2,854	6,235
Iowa	3,783	4,169	2,020	2,613
Kansas	2,896	3,062	1,576	3,609
Kentucky	2,360	2,446	2,058	3,921
Louisiana	9,497	6,600	1,934	3,921
Maine	1,500	700	673	1,224
Maryland	2,245	2,450	1,846	3,012
Massachusetts	4,500	2,500	2,738	4,698
Michigan	6,905	8,500	4,164	8,919
Minnesota	3,157	3,598	2,289	4,585
Mississippi	6,127	6,000	1,374	2,727
Missouri	5,895	7,200	3,119	6,280
Montana	1,432	1,400	548	1,190
Nebraska	2,008	3,000	1,163	2,265
Nevada	694	450	441	798
New Hampshire	1,069	1,050	534	888
New Jersey	3,800	3,860	3,791	5,768
New Mexico	1,858	2,066	696	1,831
New York	7,000	6,800	5,982	11,359
North Carolina	10,244	10,643	3,547	6,946
North Dakota	983	1,245	471	910
Ohio	6,632	6,205	5,362	11,723
Oregon	2,091	2,165	1,352	2,828
Oklahoma	4,450	4,700	1,705	4,153
Pennsylvania	5,790	6,000	5,192	11,256
Rhode Island	703	602	487	901
South Carolina	4,776	5,200	1,833	3,720
South Dakota	1,245	1,245	556	1,171
Tennessee	6,000	6,000	2,491	5,157
Texas	9,900	11,000	8,568	17,118
Utah	2,116	2,137	849	1,504
Vermont	854	856	369	596
Virginia	6,400	6,000	2,740	4,648
Washington	5,306	3,500	2,003	3,945
West Virginia	2,700	2,800	1,013	2,156
Wisconsin	4,388	5,074	2,735	5,182
Wyoming	1,175	1,372	415	772
Total U.S.	202,443	210,120	114,748	226,459

(a) This compilation embraces all outlets where gasoline is sold at retail. It includes service stations, convenience stores, car washes, etc., a universe, in effect, of retail gasoline outlets. The surveys were completed in March 1992 and January 1991, respectively.

(b) These are the U.S. Bureau of the Census figures for 1987, but include only those service stations that have employees and payrolls and generate more than half their income from gasoline sales. Automatically excluded were convenience stores, car washes, etc.

(c) These are the U.S. Bureau of the Census figures for 1972 and are generally considered a "universe count" because only a handful of places, beyond orthodox service stations, sold gasoline at retail at that time.

Sources: NPN state-by-state telephone survey for 1992 and 1991; U.S. Bureau of the Census, Census of Retail Trade, 1987 and 1972.

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VOL. 84 **NO. 5**

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Editor's Viewpoint

Concern is rapidly growing that the regulatory outflow from the Clean Air Act amendments threatens to create a gigantic boondoggle for the entire petroleum marketing community in the next few years.

Just about everybody in this industry agrees on the need for a national strategy—enforced by commonsense regulations—to achieve desirable clean air standards. With the best of intentions, federal and state rule-making agencies convert the mandate of Congress and state lawmakers into specific regulations and procedures designed to attain those legislative goals.

But somehow this process has gotten skewed, and what should have been a manageable, cost-efficient set of regulations becomes instead a form of bureaucratic overkill, stretching the capability for compliance of many companies in our industry to the breaking point.

Take the new regs on reformulated fuels, for example. As *NPN's* West region editor, Mark Emond, pointed out in last month's detailed cover report, the reformulated specs are spawning a crisis in the refinery industry. Smaller refineries, especially, are on the bubble. Many probably won't survive, leaving marketers in their areas scrambling for new suppliers. Major refiners will survive, but at a cost that will divert many billions of dollars into nongrowth investments for environmental compliance.

If these investments were necessary to protect the air we breathe, the cost would be justifiable. But a growing number of industry voices are being heard that challenge the regulators' assumptions and methodologies.

Texaco USA president James Dunlap, speaking to a California business group, said certain state and federal environmental programs do not meet the test of reasonable cost-benefit requirements. "Much too often, more cost-effective alternatives have been overlooked or dismissed without adequate consideration," he said.

Dunlap offered an example: "An enhanced vehicle inspection and maintenance program, combined with an old car scrappage program, would get rid of 400 tons/day of pollutants at a cost of about $5,000/ton....With the [California Air Resources Board proposed gasoline reformulation], you get rid of 58 tons of pollutants per day at a cost of about $90,000/ton."

Amoco Oil Co. president Bill Lowrie states that research data do not confirm that the Clean Air Act requirements for reformulated fuels will result in cleaner air. He also cites a recent study that concludes that EPA has regulated in ways that require the highest cost for their impact on emissions. "For example, we could reduce benzene in our products for a cost of approximately $400/ton, if we could do it our way," Lowrie says. "But the EPA says we have to do it their way, which is not any better, but which costs $2,000/ton. (For more Lowrie comments, see p8.)

We need clean air. We need cleaner motor fuels. Most of all, we need environmental remedies that will get the job done without sacrificing the competitive vitality of the petroleum marketing industry. That's the message we need to get to our lawmakers.

—Don Smith

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NATIONAL PETROLEUM NEWS

May 1992

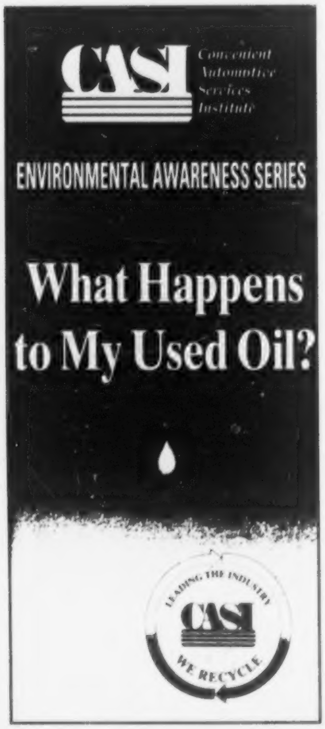
Vol. 84 No. 5

FEATURES

COVER REPORT
Surge in pay-at-the-pump fueled by majors; jobbers next in line
By Angel Abcede 30

MANAGEMENT
Decision time nears on used oil hazardous waste listing
By Phil Shook 41

MARKETING
Lucky Lady Oil Co.'s success more than just luck
By Phil Shook 46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DEPARTMENTS

Editor's Viewpoint 3
Ahead of the News 7
Top of the News 8
Catching Up 9
Trends & Marketplace 10

Regions

- South 14
- West 15
- East 16
- Midwest 18

General News 21
- Marketers await court decision after Stage II gets EPA go-ahead
- Circle K agrees to buyout proposal
- Gasoline oxygenate supplies concern government, industry
- More marketers complying with UST regs
- Bureaucratic retailing? HUD enters the C-store marketing sector
- Farmland has branding reservations

About Oil People 52
Briefs 56
Product Showcase 61
Coming Meetings 68
Classified Advertising 71

COLUMNS

Operations Management
Hieber's harbor
By Howard Upton 50

C-Store Opportunities
Want to prosecute a dishonest employee?
By Jack Sparagowski 54

Legal Tips for Marketers
Court decision disregards precedent
By Sam Borenkind 58

Marketer's Tax Corner
A transfer-to-your-kids opportunity
By Irving L. Blackman 66

TRENDS

Oil Industry Looks For Uplifting Summer

If oil profits begin improving this summer or sooner, it likely won't be because of improvement upstream. Saudi Arabia has the Organization of Petroleum Exporting Countries (OPEC) over a barrel, producing 35% of the group's nearly 23-million b/d, and plans to keep it that way.

When other OPEC countries produce over quotas, as some usually do, the Saudis simply increase their production commensurately. You know the result. Overproduction continues to depress crude oil prices throughout the world, with nothing in sight likely to turn it around. Reference crude oil prices hover at $18/bbl. to $19/bbl., and OPEC's $21/bbl. spring target was an airy dream.

That's the good news. The bad news is that there's always a possibility—however remote at present—that Iraq will begin producing again at something like its former levels. It would be a disaster, plunging crude prices to new depths and forcing a radical restructuring of OPEC quotas.

Because of very weak crude prices, coupled with the need to invest billions in refinery upgrades, oil companies are reducing staff, economizing, selling off, cutting back, shutting down, pulling out and doing other things in a near-desperate effort to bolster earnings.

The oil industry has been under a virtual siege in recent years. Arco chairman and chief executive officer Lodwrick M. Cook pointed out in a speech in April that the industry has lost more than 330,000 jobs during the past decade. He said U.S. government policies, resulting in sharply dropping domestic production and rising imports, are giving OPEC increasing control over U.S. oil supply and prices.

The climate in the United States is hostile to the oil industry. Cook said, "Oil companies are leaving the U.S. because they've lost confidence in the future. They don't think they can make it here anymore.... Even large U.S. firms that traditionally have been tied mainly to the U.S., like Amoco and Phillips, are going. And so is Arco." He added, however, that Arco is not giving up entirely on U.S. oil prospects.

Although prospects for recovery from the recession seem to be improving, the economy remains sluggish, helping to influence oil refineries to operate at their lowest levels in almost five years, the American Petroleum Institute (API) reports. In February, refineries operated at only 79.9% of reports capacity. A year earlier they were operating at 84.4%.

Imports were temporarily down a million b/d below needs, API estimates.

Refiners were drawing down their inventories deeply, about five times more than normal, for several reasons, one being that crude oil prices were so weak. Refiners appeared reluctant to hold excess inventories.

Refiners were reducing gasoline stocks almost to minimum operating levels, mostly because they were moving out higher-RVP (Reid vapor pressure) product to get ready for the lower-RVP gasoline they have to supply in the summer. Some were warning that lower RVPs mean less gasoline and could contribute to tight supplies.

With prospects for continuing tightness, there was hope gasoline prices, at or near three-year lows, would revive this summer, bringing relief downstream to offset, to some degree, the bleak perspectives upstream.

Purvin and Gertz, the Houston consultant, reports the refiner profit margin on Louisiana Light crude processed by a cracking unit on the Gulf Coast increased to 28¢/bbl. in February and was forecast to increase to 70¢/bbl. in March and $1.50/bbl. in April and May.

Key economic indicators hinted that the country was pulling out of the recession. Public confidence was growing a little, suggesting that travel might pick up somewhat this summer.

A decidedly glum U.S. oil industry could use a little cheering up. Companies are running out of things to slash. They need upstream relief to take off some downstream pressure. The coming months and years will test the mettle of everyone. *—Mark Emond*

MARKETPLACE AT A GLANCE

AVERAGE GASOLINE PRICES IN THE U.S. (per gal.)

FEBRUARY	Gasoline (All types)	Leaded Regular	Unleaded Regular	Unleaded Premium
U.S. City Avg.	$1.117	*	$1.054	$1.248
Regions				
Northeast	1.204	*	1.124	1.337
North Central	1.047	*	1.007	1.172
South	1.105	*	1.031	1.217
West	1.138	*	1.092	1.281

* *Data no longer collected or available.*

Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

STOCKS (Add 000 bbl.)

	3/27/92	3/29/91
Gasoline (Total)	221,998	211,450
Unleaded*	179,877	164,227
Jet Kerosine	43,690	44,562
Distillates	97,769	97,646
Residual	41,426	43,366

**Leaded regular prices no longer collected by Bureau of Labor Statistics.*

Source: American Petroleum Institute.

Gasoline Oxygenate Supplies Concern Government, Industry

The supply of oxygenates for gasoline blending appears to be adequate for this fall, when a widespread federal mandate goes into effect. MTBE (methyl tertiary butyl ether) and ethanol producers are revving up to meet demand. Ethanol is proving to be a surprising short-term competitor.

Fuel ethanol is making impressive inroads into the gasoline oxygenate market against the prevailing oil-industry preference for MTBE. Given the 5.4¢/gal. federal tax exemption on gasohol (10% ethanol, 90% gasoline), ethanol is cheaper for all but those who manufacture their own MTBE. State exemptions, where they exist, make it cheaper still.

"The conventional wisdom is that MTBE is the oxygenate of choice for oil companies," says Fred Potter, president of Information Resources Inc. (IRI), a specialist in ethanol and reformulated fuels. "The oil industry is against ethanol generally and favorable toward MTBE, but market economics are going to drive out a lot of MTBE."

By his calculation, a gallon of motor fuel oxygenated with ethanol costs about 8¢/gal. less than a gallon blended with MTBE purchased at the market price. For refiners that make their own, MTBE is the cheaper way to go. At present, however, many refiners and blenders have little or none of their own and have to buy MTBE on the outside. Many use ethanol extensively. (The economics are shown in the accompanying box below.)

Perhaps more importantly at present, the U.S. refining industry does not have nearly enough MTBE capacity to oxygenate 40% of the domestic gasoline pool. To make matters worse, feedstocks for MTBE production are in short supply, particularly butane and methane. These shortages have forced some refiners to cut back MTBE production. Utilization rates of 60%-70% are reported in some cases.

This condition, for however long it lasts, evidently is forcing refiners to reevaluate their use of ethanol. Some that have no production of their own are relying heavily or entirely on ethanol to meet their oxygenate needs, at least for the present. If MTBE can eventually be supplied in sufficient quantities, the availability and economics could change.

Ethanol penetration

For economic and other reasons, sales of ethanol blends have increased greatly during the past decade. U.S. production and sales of ethanol were less than 100-million gal. in 1981 and increased to nearly 900-million gal. in 1991.

IRI's Potter expects the U.S. market for ethanol to grow to 1.3-billion gal. to 1.5-billion gal. by 1995, when only reformulated gasoline having an average oxygen content of 2% may be sold in the nine worst ozone nonattaintment areas. Other areas can opt in.

In metropolitan areas where oxygenates are mandated because of excess carbon monoxide (CO) in the air, Potter expects an average of 50% market share for ethanol blends, 50% for MTBE. This is not a forecast, he says, but rather the result of actual case studies.

Seven cities have adopted CO programs since 1988, and the market share of ethanol has grown in most of them. Potter provides these ethanol market shares for 1991: Phoenix 52%, Denver 45%, Albuquerque 95%, Las Vegas 50%, El Paso 98%. When the first CO program started in Denver in 1988, ethanol had only 5% penetration.

Chevron, Mobil and Arco use ethanol in Phoenix. Arco uses both MTBE and ethanol in Las Vegas. Shell, an advocate of MTBE, uses all ethanol in El Paso. "They [Shell] are the last guys you'd think would put ethanol in gasoline," says Potter. "It's economics. They don't want to pay those big numbers for MTBE."

Blending Economics of Fuel Ethanol vs. MTBE

	Ethanol Blends	MTBE Blends
Gasoline at $0.70/gal.	$0.647	$0.597
MTBE at $1.25/gal. at 14.73 vol. %	--	0.184
Fuel Ethanol at $1.45 at 7.62 vol. %	0.110	--
Federal Tax at $0.141	0.087	0.141
Total Cost of Motor Fuel	$0.844	$0.922

Note: Federal tax exemption on gasohol is 5.4¢/gal., or 54¢/gal. of ethanol. Table does not include state gasoline taxes or exemptions.
Source: Information Resources Inc.

ARCO
Emission Control Gasolines
EC-1 Regular

Arco EC-1 reformulated gasoline, with MTBE, led the parade of cleaner-burning gasolines when it was introduced in southern California in September '89. MTBE was the oxygenate most other refiners chose for their reformulated gasolines; however, Arco will use ethanol as its oxygenate this fall in northern California, Oregon and Washington.

Why EIA is concerned

Concern has been widespread that there wouldn't be enough oxygenate available to meet the requirements of the winter of 1992-'93, beginning in November and continuing for at least four months. That's when the federal regulation requiring gasoline to contain 2.7% oxygen by weight goes into effect in about 40 metropolitan areas. Oxygen in gasoline reduces CO emissions.

Because the distribution system scatters oxygenated gasoline into areas where it is not required, an estimated 40% of U.S. gasoline will have to be oxygenated. The Environmental Protection Agency (EPA) could suspend the regulation in any area to avoid critical gasoline shortages when the time comes, but this is no relief for gasoline suppliers and marketers who must prepare to comply with the regulation.

The Energy Information Administration (EIA) is aware that the availability of oxygenates is critical to gasoline supply in these areas. The agency has begun a new oxygenate data collection program, issuing its first report in March 1992 for January and February. The report will be updated monthly.

A key to whether the supply of oxygenated gasoline will be short this fall is in how much is being produced and how much is in storage. The main oxygenates by far are MTBE and ethanol, and the production and stockpiling of both is growing.

EIA does not intend to try to evaluate the data to decide whether the supply of oxygenates is adequate. A spokesman says, "It is not our intention to make any appraisals. We will just let the numbers speak for themselves." The National Petroleum Council is working on a study of the situation for the Department of Energy, but is not expected to complete it until the end of the year, after the November witching hour.

Notwithstanding the lack of governmental appraisals, trade sources recently have generally expressed confidence that the oxygenate supply will be ample this fall. One of the reasons is that ethanol is taking up a lot of the slack. It may be like the man who came to dinner—and stayed. People are getting used to it.

Approximately 900-million gal. of ethanol was available in the United States in 1991, of which 25-million gal. was imported. This oxygenated 9-billion gal. of gasoline blends. IRI's Potter reports there's another 300-million gal. of capacity under construction to meet the November deadline, although later reports at presstime indicate this expanded capacity may be less than anticipated [*NPN*—May '92, p7].

Potter expects an average of 50% market penetration for ethanol in the CO nonattainment areas outside California this fall, MTBE the other half. In northern California, he expects 25% ethanol penetration, MTBE the rest.

Ethanol stocks, production

Not even the EIA, with its sizable manpower and statistical resources, can be at all sure that it has located all of the producers of ethanol, a spokesman says. Remember that the Internal Revenue Service has never been able to find all the mountain stills, which were and are producing white lightning.

In a year-old EIA "frame" study meant to get a handle on U.S. oxygenate production and form the basis for the new monthly reports, there were 42 plants producing ethanol in the country, with a total production of 3.296-million gal./day in January 1991. They projected production of 3.927-million gal./day by January 1992, an increase of 19%.

Most of these plants, 24, are located in the Midwest (PADD II) farm country. Practically all is made from corn. The largest producer in the country by far is ADM, with operations in Illinois, Iowa and North Dakota, then producing 2-million gal./day, or 61% of the national total. A distant second is Pekin Energy Co., Pekin, Ill., with production of 219,000 gal./day.

The East Coast (PADD I) had seven plants; the Gulf Coast (PADD III) six; the Rockies (PADD IV) five; the West Coast (PADD V) five.

In its first monthly oxygenate report in late March, EIA reported that as of Feb. 29, 1992, U.S. stocks of fuel ethanol were 1.149-million bbl., compared with 761,000 bbl. on Dec., 31, 1991, an increase of 388,000 bbl., or 51%, in two months.

Production of fuel ethanol during January and February 1992 averaged 75,000 b/d. This is less than the average 1990 production of 78,500 b/d and may be seasonal. EIA did not attempt to explain the drop. Coming months should shed light on this anomaly.

MTBE production, stocks

Oil refiners generally prefer MTBE if for no other reason than that they make the product themselves. EIA lists 32 MTBE manufacturers in the U.S., and all are petroleum or petrochemical refiners (see table). Some 21 are in the Gulf Coast area, three are on the East Coast, five are in the Midwest, one is in the Rockies, and two are on the West Coast. The list reads like a refiner's who's who.

In January 1991, they were producing 4.417-million gal./day, with 875,000 gal./day of capacity idle, or 17%. The operable capacity they projected for January 1992 was 5.976-million gal./day, which would amount to a gain of 13% during the year. Projected idle capacity was not reported.

EIA said in its first monthly oxygenate report that as a result of additional production capacity coming onstream during 1991, U.S. production of MTBE showed substantial growth, contributing to increased stocks.

Production of MTBE during January and February 1992, 100,000 and 97,000 b/d respectively, was significantly higher than the previously published 1990 average production of 71,000 b/d. This increase was the result of startups of additional MTBE units, EIA said.

MTBE stocks were 8.505-million bbl. on Feb. 29, 1992, compared with 3.599-million bbl. at the end of December 1990, an increase of 4.906-million bbl., or 136%.

MTBE vs. ethanol marketing

Ethanol manufacturing is in the agricultural industry, MTBE manufacturing is in the petroleum industry.

Ethanol blending and marketing is in the domain of marketers, in most cases, MTBE blending in the domain of refiners.

Ethanol is, for the most part, mixed with gasoline in tanktrucks. EIA reports that the number of small gasoline marketers and truckers who engage in this business appears to be large and frequently changing.

Just under nine-tenths of the reported

(Continued on page 24)

Monthly MTBE, Ethanol Production, Ending Stocks by Petroleum Administration for Defense Districts (PADD), 1992

(000 bbl.)

	January		February	
	MTBE	Ethanol	MTBE	Ethanol
Total U.S.				
Production	3,109	2,424	2,819	2,064
Stocks	8,398	939	8,505	1,149
PADD I (East Coast)				
Production	W	W	W	W
Stocks	1,839	60	1,512	72
PADD II (Midwest)				
Production	W	2,254	W	1,929
Stocks	W	443	W	558
PADD III (Gulf Coast)				
Production	2,722	W	2,375	W
Stocks	2,958	248	3,406	340
PADD IV (Rockies)				
Production	W	W	W	W
Stocks	W	9	W	9
PADD V (West Coast)				
Production	W	W	W	W
Stocks	3,201	179	3,247	171

W = Withheld to avoid disclosure of individual company data.

Source: Energy Information Administration (EIA) Form EIA-819, Monthly Oxygenate Telephone Report.

Methyl Tertiary Butyl Ether (MTBE) Plant Capacity by Petroleum Administration for Defense (PAD) Districts

(000 gal./calendar day)

PAD District	Location	Jan. 1, 1991 Operating	Idle	Projected Operable Cap. for 1/1/92
***PADD I* (East Coast)**				
Amerada Hess Corp.	Port Reading, NJ	0	0	50
Amoco Oil Co.	Yorktown, VA	18	0	20
Sun Co. Inc.	Marcus Hook, PA	112	0	112
Total		130	0	182
***PADD II* (Midwest)**				
Amoco Oil Co.	Whiting, IN	140	0	154
Ashland Oil Inc.	Cattletsburg, KY	67	0	75
Conoco Inc.	Ponca City, OK	54	0	54
Marathon Oil Co.	Robinson, IL	0	0	56
Marathon Oil Co.	Detroit, MI	45	0	46
Total		306	0	385
***PADD III* (Gulf Coast**				
Arco Chemical Co.	Channelview, TX	1,260	0	1,260
Arco Chemical Co.	Corpus Christi, TX	0	504	504
Arco/Lyondell	Channelview, TX	336	0	336
Champlin Ref./Chem.	Corpus Christi, TX	60	5	63
Citgo Pet. Corp.	Lake Charles, LA	89	0	85
Conoco Inc.	Westlake, LA	68	0	68
Crown Central Pet.	Pasadena, TX	0	210	210
Diamond Shamrock	McKee, TX	55	0	55
Exxon Chemical	Baton Rouge, LA	232	0	232
Exxon Chemical	Baytown, TX	119	0	108
Fina Oil/Chem.	Big Spring, TX	18	3	18
Hill Petroleum	Houston, TX	63	0	63
Lyondell Petrochem.	Channelview, TX	126	0	110
Mobil Oil Corp.	Beaumont, TX	85	0	93
Phibro Refining	Texas City, TX	0	0	57
Phillips 66 Co.	Sweeny, TX	120	0	120
Star Enterprise	Convent, LA	0	0	92
Texaco Chemical	Port Neches, TX	280	0	388
Texas Petrochem.	Houston, TX	859	0	859
Trans American Ref.	Good Hope, LA	0	147	302
Valero Refining Co.	Corpus Christi, TX	75	0	84
Total		3,845	869	5,107
***PADD IV* (Rockies)**				
Coastal Chemical	Cheyenne, WY	0	0	168
Total		0	0	168
***PADD V* (West Coast)**				
Arco Products Co.	Los Angeles, CA	79	0	71
Chevron USA Inc.	El Segundo, CA	57	6	63
Total		136	6	134
U.S. Total		4,417	875	5,976

Note: Idle capacity is defined as capacity not in operation and not under active repair, but capable of being placed in operation within 30 days; and capacity not in operation, but under active repair that can be completed within 90 days. Operable capacity is the sum of operating and idle capacity.

Source: Energy Information Administration (EIA) Form EIA-822A, Oxygenate Producers Report.

(Continued from page 23)

ethanol blending was performed by operators of bulk terminals, bulk stations, and other like respondents. Operators of refineries did just under one-tenth of reported ethanol blending.

Ethanol manufacturers did very little ethanol blending. The largest proportion of reported ethanol blending occurred in the same region where it was produced. About three-fourths of all ethanol blending took place in the Midwest (PADD II).

More than nine-tenths of the MTBE blended into gasoline was blended by petroleum refiners who either produced the product themselves or purchased it from MTBE manufacturers and merchants. The proportion of self-supplied MTBE was not reported by EIA.

Assessing supply

EIA's reluctance to estimate the adequacy of overall oxygenate supplies is based on several factors:

- Of the oxygenates included in the survey—fuel methanol, MTBE, methanol, TAME (tertiary amyl methyl ether), TBA (tertiary butyl alcohol), and "others"—several have significant other uses, and some, particularly methanol and TBA, are used much more as feedstocks in ether production than in direct gasoline blending.
- The MTBE and ethanol gasoline blends covered in the 1990 study were mostly the traditional ones, not environmental: that is, they were used as gasoline octane enhancers and volume extenders, not emission reducers.
- Oxygenates contain different weights of oxygen. As a result, the volumes blended to meet the regulation differ. To achieve 2.7% oxygen content by weight with MTBE, about 15% of the gallon sold at the pump would be MTBE. Because ethanol contains about twice as much oxygen by weight, only about half as much volume needs to be used.
- Oxygenate production and storage capacities are not uniformly distributed throughout the country. Most are located in the Gulf Coast area and Midwest where only five of the 39 CO nonattainment areas are located. EIA says its studies do not include questions about how oxygenates move to market.
- Other metropolitan areas can opt into the program, and their number cannot be known until areas make a formal request to the EPA. EPA can approve or not, depending on the considered availability of oxygenate supply, which is specific in time and place.

These formidable difficulties have not stopped industry analysts from assessing supply, however. The consensus

(Continued on page 26)

More Marketers Complying With UST Regs, But Financing Still a Problem

More petroleum marketers are making the investment necessary to comply with underground storage tank (UST) regulation, although access to financing for tank replacement and upgrades is becoming more difficult than ever, according to a survey by the Petroleum Marketers Assn. of America (PMAA).

"It is a clear demonstration that marketers recognize the value of being in compliance, both in terms of enhancing their own competitive viability in the market and in meeting their responsibilities to the environment," says PMAA executive vice president Phillip R. Chisholm.

The number of petroleum marketers meeting the financial requirements for compliance with the Environmental Protection Agency's (EPA) comprehensive underground storage tank regulations has increased significantly in 1991 over the previous year, the survey shows. But it also shows that major problems still exist for marketers in the areas of remediation and in obtaining bank financing.

The survey finds that total UST expenses for all marketers averaged 2.8¢/gal. of petroleum sales in 1991, and the results suggest that marketers expect to be spending at about the same rate this year.

The average expenditure by those marketers who spent money in 1991 to insure, upgrade or replace underground tank systems was more than $96,000. That excludes remediation, which averaged $154,000 for the 40% of the respondents that said they did cleanups last year. Per site clean up costs averaged more than $57,000, up from $54,000 in 1990.

Most of the progress by marketers came in the area of financial responsibility compliance. At year end 1991, more than 83% of the marketers surveyed said they were covered by a state fund, up from 68% for the previous year.

The study shows that state funds, while much cheaper than private insurance, do not come free, and there is a wide variation in the cost to marketers in different states. Marketers report paying an average of more than $7,700 in state fund fees during 1991, compared with paying $6,400 in 1990. The fee per tank covered averaged $480 in 1991, up from $364 the previous year.

Respondents project that the average fee per tank will increase further in 1992 to $606. The study finds that marketers also are utilizing other financial tools available to establish financial assurance, such as letters of credit and surety bonds, primarily in combination with a state fund.

Private insurance continues to be a costly means of demonstrating financial responsibility, the study finds. Marketers with full coverage pollution liability insurance (PLI) policies report spending an average of $32,500 in 1991 for premiums, or nearly $1,300/tank. While these levels of private PLI coverage are down from the previous year ($37,500 average and $1,800/tank), so few marketers reported having full coverage PLI last year that the averages are based on a limited number of responses. However, the 1991 average premium is still more than 70% higher than in 1988.

According to the PMAA survey, the number of marketers without any means of assurance fell to 8%, less than a third of what it was in 1990. PMAA said that, for the most part, the 8% of marketers reporting no coverage were Category IV tank owners (with less than 13 tanks) and thus not required to be in compliance until the end of 1993.

The study found that the marketing industry is expending "vast amounts" of capital on USTs at a time it is facing an unprecedented credit crunch.

Respondents reported a continuing problem in obtaining credit from traditional lending institutions to finance tank replacements and upgrades. "Banks are increasingly unwilling to loan money for any type of UST-related expense because of liability concerns," the study says.

The PMAA reports that the problem has become so acute that fewer marketers are even applying for loans because their bankers have told them not to bother.

Only 27% of the respondents reported that they applied for a loan in 1991 and about a third of those applications were rejected, the study finds.

The survey shows that delays by regulatory authorities continue to hamper cleanup efforts. More than 50% of the marketers report "bureaucratic delays" in plan review and approval. More than 45% report delays in closure review and approval while 40% said delays occurred in the hazard determination of the soil or the groundwater. Delays also are reported by marketers in the site inspections and the permit approval process.

Tank and station closure remained a viable compliance option for many marketers in 1991, according to the survey. Marketers report a closure rate of more than one-fourth of their total outlets for the period 1989-'92. In each of those years, nearly 40% of the marketers report closing at least one UST, with closures averaging more than six per marketer. Local, state and federal UST requirements were cited for three-fourths of the closures. Although many survey respondents did not attempt to project future trends, data from the survey suggest that marketers may close an additional 7-8% of their tanks this year.

The study finds a similar pattern in closures of retail outlets. Marketers report owning 8.2 retail outlets in 1991, down 11% compared with the 9.2 outlets owned in 1989. Total outlets closed during the period, however, represent almost one-quarter of the 1989 total, PMAA says.

Marketers attribute the majority of outlet closures to the costs of complying with local, state and federal UST regulations. A total of 66% of all outlets closed between 1989 and 1991 were closed as a direct result of UST regulations, while 19% reportedly were closed after generating insufficient revenues.

The 1992 PMAA UST survey was sent to 2,000 randomly selected marketers across the country. About 220 marketers operating in 42 states returned the survey. In 1991, they owned nearly 6,600 USTs, almost 1,800 retail outlets, and sold an average of 8.7-million gal. of motor fuel.

—Phil Shook

(Continued from page 24)

as it is known, is that there will not be a shortage generally, although there might be some shortages or outages locally.

For marketers who cannot obtain oxygenated gasoline from their suppliers in nonattainment areas, the availability of ethanol should be a major concern. Stocks of ethanol vary widely by region. In February 1992, with 558,000 bbl. of ethanol in storage in the Midwest and 340,000 bbl. in the Gulf Coast area, the West Coast had 171,000 bbl., the East Coast 72,000 bbl., and the Rockies 9,000 bbl. Regional production and stock variations for MTBE and ethanol are shown in an accompanying table.

With six EIA reports (May-September) still to come out before the end of October, the picture should clarify. Monthly figures on MTBE and ethanol production and stock variations will presumably point to supply improvement. EIA might even be emboldened by growing experience to hazard some useful appraisals. If EIA doesn't, others will, including most refiners.

—Mark Emond

Decision Time Nears on Used Oil Hazardous Waste Listing

By Phil Shook
Staff Reporter

The deadline draws near for the Environmental Protection Agency (EPA) to make a final ruling on whether used oil should be listed as a hazardous waste. But many of the nation's quick lube operators, automotive service providers and petroleum marketers are equally concerned about decisions on management requirements—issues that could remain unresolved for months.

After 12 years of regulatory and legislative debate, the industry had hoped all of these issues finally would be concluded this spring. But President Bush's decision to declare a 90-day moratorium on federal regulation has delayed decisions on management requirements.

Larry Northup, executive director of the Convenient Automotive Services Institute (CASI), whose members operate about 2,600 quick lube stores across the country, calls the delay a setback for the industry. A further holdup in reaching a decision on management standards "invites congressional action, which tends to be a bit more confusing," Northup says.

Northup says he suspects that EPA is leaning toward a decision against the classification of used oil as a hazardous waste, but it would come without having the management standards set in place to back up the decision.

He says the EPA has received comments from the general public and industry this fall that "were overwhelmingly in favor of a nonlisting solution to this problem."

The many opponents of the listing of used oil as a hazardous waste constitute a virtual who's who of the petroleum marketing industry, including major oil companies, independent marketers, retailers, quick lube operators and recyclers. Many of these companies have instituted used oil recyling programs, which they insist would be negatively impacted by a hazardous waste listing.

"EPA is leaning toward a nonlisting; unfortunately Congress isn't....That's the scary part," says Craig Nelson, operator of three Jiffy Lube stores in the Chicago area. Nelson says Congress is trying to "micromanage this entire industry not only by putting legislation into effect that will label used oil as hazardous, but also by trying to legislate specific management standards." The incremental costs to the industry of poorly thought out management standards would be substantial for the industry, Nelson says. He says the legislation doesn't address the improper disposal of some 450-million gal. of used oil annually—what he and others in the industry call the country's real problem with used oil.

Willy-nilly standards?

EPA has spent many years trying to develop management standards, Nelson says. "But Congress is just sort of willy-nilly plucking out certain sections of existing and proposed management standards and putting in those they feel to

CASI
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What Happens to My Used Oil?
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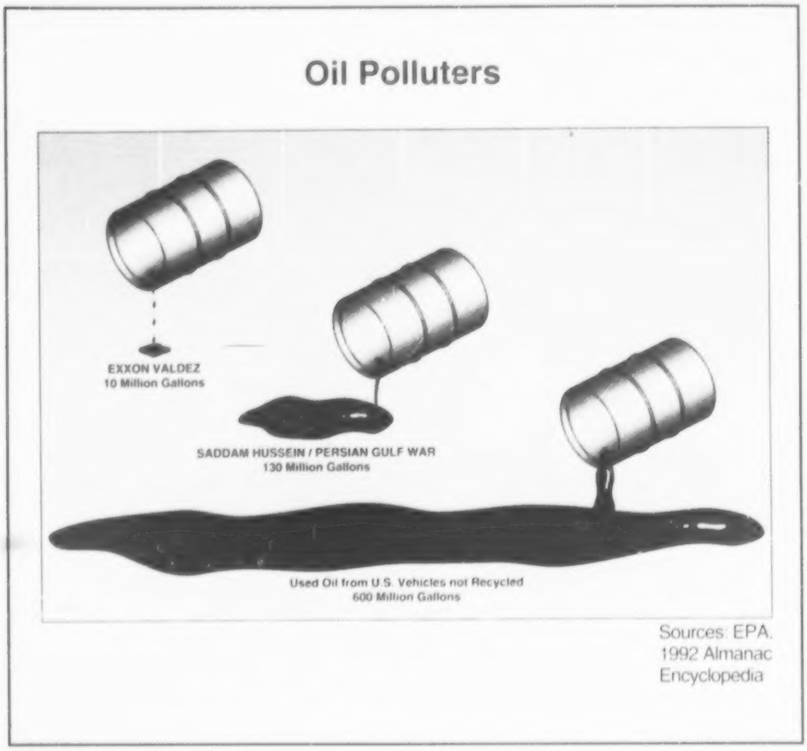
Lube 'n Go, El Paso, Texas, uses a series of CASI pamphlets to promote the company's recycling efforts.



Sources: EPA,
1992 Almanac
Encyclopedia

Every year in the United States, 60 times the amount of oil from the Exxon Valdez spill is disposed of improperly.

be politically correct and leaving out those they don't."

Congressional tinkering with management practices would load the burden on the industry, Nelson says. "It would do nothing to solve the problem or deal with Joe Citizen who changes his oil and dumps it down the sewer."

CASI's Northup says a decision not to list oil as a hazardous waste by the EPA would have to be backed up by the development of used oil management standards for the industry.

Northup says there is a fear that without management standards, the EPA will have a harder time justifying a no listing stand.

The other problem with the absence of management standards is that built into federal law is an exemption from Superfund liability for motor oil installers who abide by management standards and collect do-it-yourselfer (DIYer) oil. But since there never have been any mandated management standards, the exemption has never been triggered.

Northup says the industry had been looking forward to the May decisions so there would finally be some management criteria that would allow the Superfund exemption to be triggered. "Now it looks like we will not get the management standards, so we won't get that exemption either. It kind of fouled things up," Northup explains.

He says ultimately the industry will get the management standards, but it is now unclear when that will be. "We were on the verge of knowing what was going on and being able to deal with it. But now we are back to square one where we don't know," Northup says. "It is frustrating and also costly."

Northup says what EPA was asking for in proposed management standards already is being done by quick lubes as well as by most dealers and service stations. "They looked on them as sort of simple housekeeping chores."

Northup says, for example, that quick lube operators, or "generators," already are abiding by current regulations pertaining to storage tanks, that they are keeping track of used oil shipments off site and that they are complying with regulations prohibiting the mixing of used oil with hazardous wastes.

Among the management standards that Northup says "they could throw at us" are limitations on the storage time that operators would have to keep used oil on site. "That could pose a problem for some," Northup says. He says fast lube operators also are concerned about the passage of "strange and new" restrictions on underground or aboveground storage tanks that could include cumbersome testing requirements.

Waste heater threat

In addition, quick lube operators in the northern states also are facing possible prohibitions or restrictions on the use of used oil in space heaters. Environmental groups are seeking controls on used oil-fired space heaters (not only by quick lube operators, but also in boilers at schools, hospitals, apartment buildings and offices), which they say emit significant amounts of lead into the atmosphere.

While the management practices issue remains clouded, Northup says it is unlikely that EPA will rule to classify used oil as a hazardous waste. He says the listing of used oil as hazardous has been opposed by a number of industry groups representing thousands of quick lube operators, auto parts manufacturers and distributors, petroleum marketers and service station dealers.

The EPA is considering three options on used oil, and two of those options would result in some or all of used oil being declared hazardous.

"An across-the-board or partial listing of used oil [as a hazardous waste] would seriously upset a recycling system that currently works," says a spokesman for the Automotive Service Industry Assn. (ASIA). "We don't think the hazardous listing will do anything beneficial to the environment," Nelson says. On the other hand, he says, "it would cause orders of magnitude in increases in improper disposal," he says.

If used oil was listed as a hazardous waste, there is no question that there would be a dramatic increase in the cost of disposal just because of all the requirements that are imposed on a handler of hazardous waste, says Shane Smoot, environmental counsel for Quaker State Minit-Lube. The Salt Lake City-based company operates 452 fast lube stores in 26 states and Canada.

Smoot says a listing of used oil as hazardous would completely ignore the most serious problem—indiscriminate disposal of used oil by DIYers. "The higher the cost of disposing of used oil, the less likelihood there is that the DIYer issue will ever be resolved," Smoot says.

Smoot says a classification of oil as a hazardous waste would disrupt the important role that quick lube operators and other petroleum marketers now play in recycling used oil. In most instances, quick lube operators either receive consideration for the oil or they will pick it up for nothing. "There are areas of the country where there is a minimal cost for disposing of the oil, but the listing would throw that completely out of whack and the cost would go up dramatically," Smoot says. "Right now there is a large gap between the cost of disposing of used oil and the cost associated with disposing of hazardous waste."

Smoot says it is likely that a listing of used oil as a hazardous waste would come with exemptions for recycling. But recycling would be much more expensive because anything the used oil touches such as hand towels and filters would then also become a hazardous waste.

Larry Bartlett, president of CASI and operator of 10 quick lube stores in Texas and New Mexico, says a listing of used oil as hazardous would be counterproductive, drastically reducing the number of recyclers because of permitting requirements.

"I don't know which way the EPA is going to jump but I would like to see them make a decision and come out with management standards so we can get on with our lives."

Glenn Morris, operator of several quick lube stores in California, says an EPA listing would not affect him since California has required the recycling of used oil as a hazardous waste since the early 1980s.

But Morris says a nonlisting of used oil could have the beneficial effect of lowering liability insurance for quick lube operators and others in the industry. "I would hope insurance companies would look at [a nonlisting] and not tax us as hard," he says.

Jiffy Lube's Nelson points out that a hazardous waste listing designation for used oil at a state level is nothing in comparison to a federal hazardous listing.

"Right now the people in the California Waste Control Section can just ship [the used oil] over state lines," he says.

Different opinions

Some companies directly involved in the recycling, refining and re-refining segments of the industry differ on how they think used oil should be regulated. Some of the recyclers also have reached different conclusions on the levels of lead emissions from used motor oil.

The National Oil Recyclers Assn. (NORA), an organization of approximately 75 used oil recyclers and rerefiners, is opposed to the classification of used oil as a hazardous waste. The group's membership includes companies that process more than 300-million gal. of oil annually. NORA counsel James Hoeskema Jr. says the association is committed to the safe and effective management of used oil, but that no additional protection will be achieved by classifying used oil as a hazardous waste.

Many major oil companies have instituted used oil collection programs. A hazardous waste classification would seriously jeopardize the existence of such programs. (Courtesy Amoco Oil Co.)

The Environmental Coalition, an industry group that includes Safety-Kleen and Evergreen Oil—two large re-refining companies—and the Hazardous Waste Treatment Council, support the listing of used oil as a hazardous waste.

John Feeley, a spokesman for Safety-Kleen, a recycler that processed about 100-million gal. of used oil last year, says coalition members have pointed out the harm that could result in the mismanagement of used oil. The coalition also cites a congressional conference report on hazardous waste in 1984 that stated, "It was never Congress' intent that protection of human health and the environment be subordinated to the continuation of used oil recycling activities."

Safety-Kleen and other members of the Environmental Coalition propose that:

- Used oil be listed as a hazardous waste after it is picked up for recycling or disposal, but that the hazardous designation would be removed for used oil that is recycled to meet prescribed health and safety standards. This would allow the oil, according to the coalition propsal, to be sold as a commercial product without subjecting customers to requirments of the Resource Conservation and Recovery Act (RCRA).
- Used oil "generators" be required to dispose used oil in accordance with (RCRA) hazardous waste regulations or deliver the oil to a recycler. Under the proposal, the generator would have to retain a copy of the manifest or recycling contract. Petroleum refineries would be allowed to re-refine any used oil generated on site without being subject to additional permitting requirements.
- Petroleum marketers would face no additional requirements under the coalition's proposal unless they are engaged in blending used oil with virgin oil for resale. In that case, they would have to comply with the requirements that apply to recyclers.

According to Safety-Kleen's Feeley, service stations, petroleum marketers and consumers would not be subject to "burdensome new requirements" if used oil is listed as a hazardous waste, if the listing occurs after oil is collected for recycling and if the listing designation is removed once the oil is re-refined or reprocessed to meet environmental specifications.

Feeley says a recycling facility would be required to obtain a RCRA Subtitle C permit, but could do so within a reasonable time frame and without undue expense. He says EPA could develop a standardized model permit that could move oil recycling facilities through the application process quickly. "Streamlined procedures can reduce individual permitting costs to as little as $50,000," he says.

NORA's Hoeskema contends that some industry groups, including the Hazardous Waste Treatment Coucil, stand to gain economically "by charging high prices to dispose of used oil if it was designated a hazardous waste."

NORA also blasted the findings of a research report released by the Hazardous Waste Treatment Council stating that waste motor oil contains as much as 100-ppm (parts per million) of lead. According to a member of the enviornmental coalition, the EPA prohibits burning hazardous waste fuels containing more than 10-ppm of lead.

Richard Fortuna, executive director of the Hazardous Waste Treatment Council, says 16-million gal. of used oil were sampled in the study entitled *America's Undiscovered Lead Threat*, and it was the "most comprehensive survey and sampling of used oil ever conducted."

A spokesman for NORA says its own survey reveals that the average lead concentration in used oil fuel sold to burners is 34.35-ppm, "and most of that lead will be removed by air pollution control devices before it enters the air."

On the legislative front, Rep. Ike Skilton (D-Mo.) has received more than 175 co-sponsors to his used oil bill HR 1411, which would require the EPA to set management standards without a hazardous waste listing, promote recycling through education, seek to reduce dependence on foreign oils and require procurement of used oil fuels by government agencies whenever possible. Reps. Cardiss Collins (D-Ill.) and Dennis Hastert (D-Ill.) have recently introduced a bill that would require that used oil be listed as a hazardous waste.

Collins also says she will introduce legislation to ban burning of untreated used motor oil in all space heaters, even if stations collect their own oil. Her bill would set limits for lead, arsenic, cadium and chromium levels in recycled oil. Under the proposed bill, recyclers would not be allowed to dilute used oil with virgin oil to meet these requirements.

Filters important, too

The handling of used oil filters — the subject of proposals on the federal and state level — is a related issue that is critical to the fast lube industry. On the federal level, Northup says CASI endorses the EPA proposal exempting filters that have been mechanically crushed.

The industry group says, however, that the exemption should be expanded to include filters that have been either gravity drained or disassembled. "Both of these treatment methods remove the majority of a filter's 'free-flowing' oil and both, we believe, will allow the filter to easily pass the agency's own toxicity characteristics test," Northup says.

Jiffy Lube's Nelson says most installers today "are, at the very minimum," draining their oil filters before they are sent to landfills.

"Many of us are crushing them and recycling them and the [filter] recycling industry is such a fledgling industry and so fragile right now that any further restrictions would kill it," Nelson says.

On the state level, oil filters have been banned from landfills in California for more than a year, and starting in July, Texas will begin a phased-in ban on sending any filters to landfills.

Industry sources say that Florida, Washington and Massachusetts are studying the filter issue and could follow Texas and California with restrictions that effectively mandate the recycling of used oil filters.

To comply with the state regulations, California quick lube operator Glenn Morris crushes filters, places them in 55 gal. drums and has them hauled off for recycling as scrap metal.

El Paso quick lube operator Bartlett says the first implication of the new Texas rule is that it only addresses one sector of the market — the installers and not the retailers who sell filters.

Protect the Environment
Recycle Used Motor Oil
Mobil
Mobil

Shirley Gault, a Hoffman Estates, Ill., Mobil station manager, points to a highly visible sign encouraging used oil recycling.

"Obviously it will drive up our costs or cause the marginal customer to become a DIYer or extend service intervals, one or the other," Bartlett says.

He says industry surveys have shown the installed market represents somewhere around 40-45% of the total oil filter sales, while DIYers account for 50-55%. "So we are bearing the total cost of the program and less than half of the market is even being addressed," Bartlett says.

Quaker State Minit-Lube's Smoot says oil filter recycling is still in its earliest stages, but state regulators are focusing on the following key issues:

- Concern about residual oil getting to the landfill. (You can drain a filter for 24 hours and you are still not going to get all of the oil out, Smoot says. "There is still a certain amount trapped, and that concerns the regulators," he says.)
- The realization that there is a recycling potential with the filters; therefore, regulators want to see the metal recycled.
- The need to reduce the volume of all materials going to landfills. Smoot says California and Texas are premature in setting standards for the handling of oil filters. "They are deciding the remedy and not allowing industry the opportunity to work with various parts of the marketplace to develop the most efficient approach," he says. "They put in place regulations that do not allow for further development of alternative kinds of recycling and disposal.

Smoot says it is frustrating when government, rather than providing a standard for the industry to live up to, mandates a remedy. He says this has a stifling effect on further development of more economic means of dealing with the problem. For example, Smoot says, regulators are becoming increasingly aware of the impact of filters in the hands of DIYers. "They recognize the biggest problem out there is the DIYer." He says the issue, however, is a "political hot potato" because "you don't put penalties on a household and what people put in their garbage can."

By forcing a particular remedy on the quick lube industry, Smoot says regulators shut the door on any public filter collection program

Smoot explains that the quick lube industry can act as a "cornerstone" to a public filter collection network, but there has to be some incentive to participate. CASI's Northup agrees: "Even with exemptions for draining, crushing and other treatments, the central problem with used filter management remains the lack of a stable and financially viable recycling outlet."

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JUNE 1992

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- *Evaluating Equipment Needs*
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Editor's Viewpoint

It is with deep sadness that I must report the death of J. Richard Shaner, our *NPN* executive editor. Mr. Shaner passed away on April 26 in the Morristown, N.J., Memorial Hospital after an extended illness.

Marvin Reid, former editor-in-chief and an old friend of Dick's, expressed it for all of us on the *NPN* staff. "It's a heck of a loss," Marvin said, emphasizing the loss was both personal and professional. Frank Breese, "Mr. *NPN*" for a quarter century in the '50s, '60s and '70s, knew Dick Shaner for over 40 years. "Dick was from the old school of news reporting—fast, profilic and objective," Frank said. "Dick was a true journeyman newsman, with a great news sense."

Among the hundreds of journalists who cover the petroleum industry beat, Dick Shaner was truly what the French call a *nonpareil* (one-of-a-kind)—a description he would have appreciated, but would have never claimed for himself. His productivity was legendary. "You could throw anything at him" Marvin said. "If there was a late-breaking story, call Dick, and you had it pronto."

I can confirm this personally. It was simply amazing to watch the reams of news copy flowing in over the modem from the computer at Dick Shaner's Whippany, N.J., office. And it was fine copy, too, requiring very little editing or rewrite. It had that Shaner flair and style (and humor) that many of you have come to recognize over the years, with its unique insights and understanding that made sense of often confusing news developments.

Until the day he was admitted to the hospital several months ago, Dick Shaner was digging out news and sending in copy with the energy and gusto of a man half his age, which was 76 when he died.

Dick's work gained recognition from his peers in the industry as well. In the 1970s, he was a key participant in special *NPN* reports that received Jesse H. Neal Awards for outstanding editorial performance. In 1982, Dick was honored with the Milburn Petty Award from the Assn. of Petroleum Writers for outstanding journalistic achievement in covering the petroleum industry.

Dick Shaner had a long and active career in the industry, including stints with the press relations department of the American Petroleum Institute, the old *NPN Bulletin* and other assignments. In 1974, joined the *NPN* staff full time on a contract arrangement. In addition to churning out tons of news copy, Dick took over the production of the *NPN Factbook*. The current status and acceptance of the *Factbook* as the industry's leading data source reflects the hard work and dedication he put into it over the years.

Dick is remembered by all of us for his many fine qualities: his willingness to counsel and guide us; his loyalty; his gentle humor (occassionally with a sharp edge to it); his devotion to his family (wife, Doris, four children, 11 grandchildren and five great-grandchildren) and to his community.

Goodbye Dick, and God bless you.

—Don Smith

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NATIONAL PETROLEUM NEWS

June 1992 **Vol. 84 No. 6**

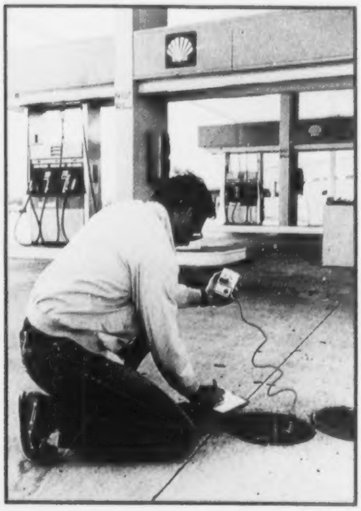
FEATURES

COVER REPORT
The tools of security;
evaluating C-store needs
By Alicia Lasek 30

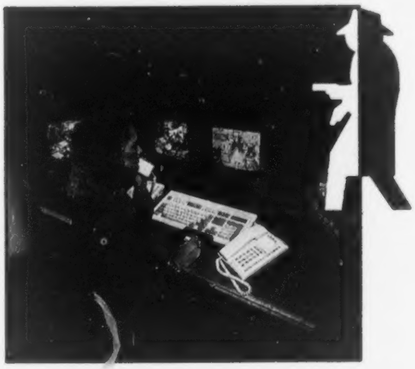
COVER REPORT—2
Hit and run thieves
target vulnerable stores
By Steve Dwyer 39

OPERATIONS & EQUIPMENT
NPN Update:
Leak detection moves
into the second generation
By Phil Shook 42

BUYER'S GUIDE UPDATE 62



42 *Marketers now have access to newer, more cost-effective leak detection systems.*



DEPARTMENTS

Editor's Viewpoint 3
Ahead of the News 7
Top of the News 8
Catching Up 9
Trends & Marketplace 10
Regions
- East 12
- Midwest 13
- West 14
- South 16

General News 19
- Los Angeles riots destroy dozens of stations, stores
- Merritt Truax, Harris Enterprises merge
- Oil companies do a burn over attack on used oil recycling ads
- Ethanol lobby protests possible Clean Air 'lockout'
- Truckstops having bad time with bad check artists, says expert
- Leaded fuel additive program gets OK from marine operators

About Oil People 50
Briefs 54
Product Showcase 60
Coming Meetings 65
Classified Advertising 69

COLUMNS

C-Store Opportunities
Half empty or half full?
By Mike Pooler 28

Operations Management
Print versus video
By Howard Upton 48

Legal Tips for Marketers
Confusion over 'accord
and satisfaction'
By Sam Borenkind 58

Marketer's Tax Corner
Second opinion saves the day
By Irving L. Blackman 64

Majors Report Reduced First-Quarter Earnings

Most of the top corporate officers of the 23 leading U.S. oil companies—and their shareholders as well—would undoubtedly prefer to forget the first quarter of 1992. The earnings performance for the period reported by most of the major companies was bleak when compared to 1991's first quarter. Recession, soft demand and other problems took their toll.

Of the 23 companies, 13 said their earnings were down compared to last year's first quarter. Seven more which reported net losses for the first three months of 1992 had positive earnings in the comparable 1991 period. Only one company, Shell, showed an overall earnings improvement.

Downstream profits, compared to 1991, did not fare too well either. Six of the 10 reporting companies had reduced earnings or net losses when matched against 1991 totals. Just one company, Arco, improved in 1992's first quarter.

Overall, first-quarter 1992 earnings were down by a total of $3.535-billion compared with the total income reported by the companies in 1991.

Corporate Earnings, First-Quarter 1992

(millions of dollars)

	1st-Qtr. 1992	1st-Qtr. 1991	% Change
Exxon	$1,350.0	$2,240.0	(40.0)%
Mobil	127.0	710.0	(82.0)
Chevron	304.0	557.0	(45.4)
Amoco	234.0	803.0	(70.0)
Shell	194.0	125.0	55.2
Texaco	200.0	415.0	(52.0)
Arco	180.0	351.0	(48.7)
BP America	(109.0)	18.0	—
Phillips	(114.0)	107.0**	—
Conoco	118.0	322.0	(63.4)
Marathon	35.0	71.0	(50.7)
Unocal	16.0	75.0	(78.7)
Coastal	22.4	54.3	(58.7)
Amerada Hess	(23.4)	75.7	—
Sun	(21.0)	41.0	—
Pennzoil	(11.7)	(27.7)**	—
Ashland*	(9.0)	26.6	—
Kerr-McGee	8.6	29.7	(71.0)
FINA	(5.5)	8.3	—
Citgo	27.0	41.0	(34.1)
Murphy	23.3	25.6	(9.0)
Total Petroleum	(17.4)	(13.3)**	—
Diamond Shamrock	(10.8)	4.3	—

**Second quarter; fiscal ends 9/30.*
***Revised.*

Downstream, First-Quarter 1992

(millions of dollars)

Exxon (total)	$473.0	$1,353.0	(65.0)%
Domestic	23.0	256.0	(91.0)
Foreign	450.0	1,097.0	(59.0)
Mobil (total)	52.0	442.0	(88.2)
Domestic	(4.0)	100.0	—
Foreign	56.0	342.0	(83.6)
Chevron(total)	61.0	233.0**	(73.8)
Domestic	39.0	99.0	(60.6)
Foreign	22.0	134.0**	(83.6)
Texaco (total)	172.0	271.0	(36.5)
Domestic	80.0	60.0	33.0
Foreign	92.0	211.0	(56.4)
Amoco (worldwide)	65.0	214.0	(69.6)
Shell	(34.0)	4.0	—
Arco	78.0	74.0	5.4
Marathon	44.0	102.0	(56.9)
Sun	(7.0)	38.0	—
Kerr-McGee	(5.3)	3.4	—

Exxon Pulling Out of Southern California

Exxon is withdrawing from southern California, selling as many as it can of its 156 stations there and shutting down the rest. Sold or not, all the brand signs will come down in November in Los Angeles, Orange and Ventura Counties.

An Exxon statement says, "This action was taken as part of an effort to reduce costs and to improve the overall profitability of Exxon's marketing operations. For some time Exxon has been concerned with its western marketing operations due to the inability to generate acceptable profits in some western markets."

Chevron U.S.A. Products Co. announced it is acquiring 23 of Exxon's direct-supplied stations in the pullout area. Terms were not disclosed. Target date for completion of the sale is November, after which the stations will be converted to the Chevron brand. The stations will be supplied by Chevron's Los Angeles-area refinery in El Segundo.

Exxon says it has contracted with or is actively negotiating with other oil companies for the sale of 25-30 other stations in the area. The sale requires the buyer to offer franchises to dealers leasing the stations. Stations not sold will be offered to the dealers leasing the stations.

With its 135,000 b/d refinery at Benicia in the San Francisco Bay area, Exxon still supplies 570 branded stations in northern California, mostly in the San Francisco and Sacramento areas. It also supplies 75 stations in Oregon and 190 in Washington.

Exxon's retrenchment on the West Coast has been going on for some time. It pulled out of San Diego County in 1988 on a trade of 90 stations for 92 Texaco stations in northern California. It is in the process of selling 57 stations in the Seattle area to BP Oil Co.

Arco says it might buy a few stations, but with near saturation in the market, it doesn't want to acquire outlets that would conflict with other Arco stations. A spokesman says many of Exxon's locations are "terrific." Mobil is reportedly interested in some Exxon stations, but declined comment. Unocal and Shell say they aren't interested in any of the Exxon stations in southern California. A Texaco spokesman says the company is not now actively pursuing acquisition of any Exxon assets in the area.

Exxon's pullout isn't expected to affect the gasoline market there greatly because of its small market share. Whitney Leigh Corp., a market research firm, reports Exxon's share earlier this year was 3.6%. Other shares were Arco 28.3%, Chevron 13.2%, Mobil 11.7%, Shell 13.5%, Texaco 4.0%, Unocal 17.5% and nonmajors 8.2%.

• TRENDS

Federal Analysts Look At Oil Prices in 2010

Economists and analysts are brave indeed who try to forecast with any confidence what will happen five years from now, let alone 20. In a way, long-range forecasts aren't worth the paper they're printed on. Yet economists and others are compelled to make them.

Consider the pitiable state of affairs of economists and analysts at the U.S. Energy Information Administration (EIA), who are currently charged with coming up with forecasts out to the year 2010. They can compare their forecasts with those of other groups, such as DRI/McGraw-Hill and the Independent Petroleum Assn. of America (IPAA), but otherwise they're on their own.

It's not a job to envy. The process is all computerized now, of course, but humans must establish databases and design computer models to approximate what can happen, all things considered. Garbage in, garbage out, they say, and there are heaps of detritus to prove it.

To cushion the risks of a forecast, which analysts prefer to call an outlook or a projection, the task is divided into individual computer models, each assigned a job. For example, one computer model EIA relies on is on world oil prices. Another is on economics in general. Each energy source has a model: petroleum, natural gas, coal and electricity. Each end use has a model: residential, commercial, industrial and transportation. There are others. All affect one another. A super model brings them all together.

With all of their possible faults, forecasts made by responsible groups are the best that humans, with the help of ever-more-dazzling computers, have yet been able to devise. They cannot take into consideration the unexpected, but they provide a base for our thinking.

We should, then, be considerate of forecasters who provide a best case, worst case, intermediate case, allowing for a range of conditions. In EIA's 1992 annual energy outlook (AEO92), projections are made for high and low economic growth and high and low crude oil prices. That's four categories, take your pick.

To get to the point, a lot of what EIA projects for 2010 hangs on whether crude oil prices rise to $40.20/bbl., the high-price case, or $22.60/bbl., the low-price case. It's quite a spread, leading to strongly diverging forecasts for petroleum product prices.

Assuming that transportation remains the leading end use of petroleum products throughout the projection period, amounting to more than half of U.S. oil demand in all considered cases, gasoline use will increase to 7.9-million to 9.1-million b/d in 2010, for the high and low price cases respectively, compared with 7.2-million in 1990 (chosen as a base reference). That's an increase of 9.7% (or 0.5% annually, compounded) in the high-price case, or of 26.4% (or 1.2% annually, compounded) in the low-price case.

The real price of motor gasoline, meaning the price after adjusting for inflation, is expected to increase from $1.17/gal. in 1990 to between $1.30 and $1.74/gal. by 2010. These prices include federal and state taxes, but not local taxes. The real price of diesel fuel is expected to increase from $1.18/gal. in 1990 to between $1.27 and $1.69/gal. The real price of home heating oil is projected to change from $0.97/gal. in 1990 to between $0.96 and $1.32/gal. The growth pattern is different for heating oil than for diesel fuel because home fuels are not subject to motor fuel taxes or sulfur limitations, and also because the demand for heating oil is declining, EIA says. Jet fuel prices, about $0.76/gal. in 1990, are projected to range from $0.71 to $1.13/gal.

Motor gasoline's share of transportation demand is projected to decline from 62% in 1990 to between 56% and 58% in 2010. The decline is the result of more jet fuel and diesel fuel being used relative to gasoline. In most cases, diesel fuel is projected to experience the strongest relative increase in demand of any product in the transportation sector, partly because diesel fuel is generally priced below gasoline through 2010, EIA says.

Since the price of crude oil is responsible for the range of projections, all bets are off if something happens to throw reasonable expectations off. —*Mark Emond*

• MARKETPLACE AT A GLANCE

AVERAGE GASOLINE PRICES IN THE U.S. (per gal.)

MARCH	**Gasoline (All types)**	**Leaded Regular**	**Unleaded Regular**	**Unleaded Premium**
U.S. City Avg.	$1.122	*	$1.058	$1.250
Regions				
Northeast	1.189	*	1.107	1.326
North Central	1.065	*	1.028	1.192
South	1.102	*	1.027	1.215
West	1.159	*	1.108	1.289

* *Data no longer collected or available.*
Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

STOCKS (Add 000 bbl.)

	5/1/92	**5/3/91**
Gasoline (Total)	216,378	204,300
Unleaded*	176,455	158,888
Jet Kerosine	35,481	37,541
Distillates	93,327	101,296
Residual	38,433	43,870

**Leaded regular prices no longer collected by Bureau of Labor Statistics.*
Source: American Petroleum Institute.

believe it provides the same benefit, if not better, than the LEV," he explains.

IPMA Elects Beeler President

Charles G. Beeler, president of Shirley Oil & Supply Co., McLean, Ill., was elected president of the Illinois Petroleum Marketers Assn. (IPMA) in late March at IPMA's Stations 'N Stores trade show and convention in Rosemont, Ill. He replaces Arthur Willaredt, will also oversee the Illinois Assn. of Convenience Stores (IACS). Beeler, well-known in the truckstop and oil industries, has served on the board of IPMA/IACS since 1982. He also serves as a board member of America's Best Truckstop and is a former board member of the Illinois Truck Stop Assn.

Charles Beeler

Beeler wasn't always a petroleum marketer. He used to be a farmer. He once owned and operated a grain and livestock farm from 1950-'68, before deciding to lease out his farm operations. Beeler's Dixie Truckers Home truckstops, located in McLean and Tuscola, Ill., have for years been welcome oases for truckers traveling on Route 66 through the state.

The McLean truckstop predates the famous Route 66, which is commemorating 66th year. It houses the Route 66 Hall of Fame, which includes memorabilia and other notable items from the famous route, which spanned 2,200 miles, across eight states and three time zones.

Supreme Court Rules On Missouri Billboards

Signs advising motorists where to find food, fuel and lodging can be erected along highways in Missouri, the state Supreme Court ruled.

The ruling follows an April 1990 moratorium placed on billboards in Jefferson City and Columbia. The ban affected the state's two interstate highways, I-70 and I-44, and had an impact on commerce.

In Columbia's case, the city council overturned in January 1990 a recommendation by its zoning board that billboards should be spaced out 1,000-ft. In lieu of the spacing requirement, the council issued a stiffer moratorium—banishment.

Missouri petroleum marketers have maintained all along that a ban on billboards would be a death blow to business. Travelers would have a nonselective idea of where the best gasoline stations and restaurants are located.

Billboards, according to a survey sponsored by the Missouri Outdoor Sign Assn., account for 51% of the business done at these establishments on average, and some reported that billboards account for 75% of profits.

Groups like the Sierra Club have regarded billboards as sight pollution that detracts from the scenery along the interstate.

Iowa Marketers Win First Court Battle vs. Casey's

A U.S. district court judge ruled in March that five Iowa petroleum marketers have the right to bring an unfair pricing claim to federal court.

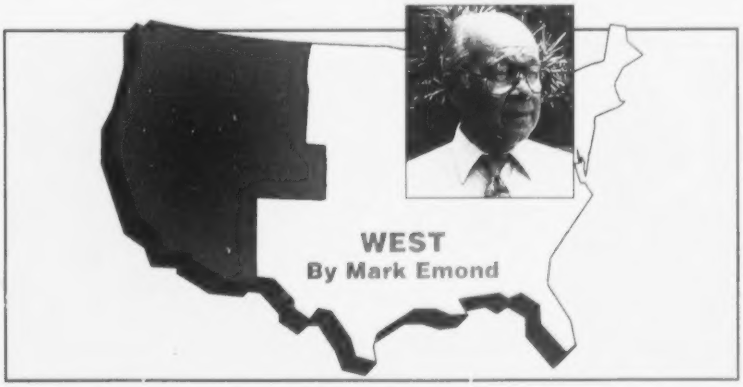
The class-action lawsuit, filed against Casey's General Stores, Des Moines, on behalf of Iowa petroleum marketers in towns of 5,000 people or less in December 1990, charges that since 1987, the corporation sought to destroy competition by unfair or predatory pricing policies. The alleged predatory pricing caused two of the five plaintiffs to go out of business.

The crux of the suit is an allegation that Casey's subsidized its small market stores with profits generated by Casey's stores in larger markets, and with the profits from nonpetroleum product sales.

Casey's countered in May 1991 by filing for a summary judgment on the grounds that the U.S. district court lacked jurisdiction over the case and that the structure of the petroleum market did not permit successful predatory pricing.

But in Judge Charles Wolle's ruling, restrictions on discovery that had been previously ordered were lifted, and attorneys for the plaintiffs have been granted access to additional information needed to support their claim against Casey's.

"If gasoline margins are not sufficient to cover operating costs, local marketers and C-store owners in small towns will be driven out of business," says Del Nelson, of Dyno Oil Co., Spirit Lake, Iowa. "When local marketers close their doors in their communities, the public will be subject to the 'pricing benevolence' of large, nonlocally owned companies."



Is the Sun Setting on The U.S. Oil Industry?

The United States is a world power and an industrial giant mainly because of the pristine and abundant natural resources available for development primarily during the past two centuries. This includes petroleum, although its development has been concentrated in this century.

In all of history, 629-billion bbl. of crude oil have been produced in the world. Two to three times that amount is known reserves (1,053-billion bbl.) or believed discoverable (489-billion bbl.), ensuring oil a continuing place for a long time to come. The figures are from the U.S. Geological Survey.

In only five years, from 1985-'90, identified reserves increased by 258-billion bbl., 203-billion of them in the Middle East. Of these, 100-billion bbl. were in Saudi Arabia and 50-billion in Iraq. By 2010, more than half of the world crude production will come from members of the Organization of Petroleum Exporting Countries (OPEC).

That's the world picture. In the United States, because of public policy and sentiment, the petroleum industry is in decline and its future bleak, with the prime prospects off limits to oil exploration. Perhaps something will come along to shock the country into revising its present policies, but that is only conjecture.

Imports are rising ominously. Powers Petroleum Consultants, Houston, reports that U.S. imports in 1992 are 7.2-million b/d, or 42% of demand, requiring 14 su-

U.S. West Coast Oil Supplies, 1976-2010

Volume of Supply (million b/d)

Source	1976	1980	1990	2000	2006	2010
Alaska	0.2	1.0	1.5	1.0	0.7	0.5
California	0.9	1.0	0.9	0.8	0.7	0.6
Imports	1.0	0.4	0.2	1.1	1.6	1.9
Total	2.1	2.4	2.6	2.9	3.0	3.0

Percentage of Supply

Source	1976	1980	1990	2000	2006	2010
Alaska	10%	42%	58%	34%	23%	17%
California	43	42	35	27	23	17
Imports	47	16	7	39	54	66
Total	100%	100%	100%	100%	100%	100%

Source: Bruce Wilson, from California and Alaska state data.

pertanker shipments a day. The firm forecasts that by the year 2020, the U.S. will import 17.8-million b/d, or 73% of demand, requiring 36 supertankers a day.

The reality is that the U.S. has chosen to relegate itself to the backwaters of one of the world's largest and most fundamental industries. The mass of people and their representatives don't seem to have gotten the message yet, or don't seem to care. Meanwhile, the U.S. oil industry gradually exports itself to the rest of the world.

Voice of 'despair'

The frustration of seeing this happen was expressed by Arco chairman and CEO Lodwrick M. Cook in a major speech in Los Angeles in April. He said government policies are driving U.S. oil industry jobs and investment overseas at an alarming rate and giving OPEC increased control over our oil supply and prices.

"Oil companies are leaving the United States because they've lost confidence in the future. They don't think they can make it here anymore," he said. "The signs of hasty departure are everywhere—the lack of working rigs, the decline of jobs, the fact that U.S. crude oil production has fallen by 1.3-million b/d since early 1986.

"In the oil industry, we can't wait 75 years to decide if we're wanted. We'll go where governments encourage us to explore—and a lot of countries are fighting to get this industry's expertise and capital: places like Russia and other newly emerging republics of the former Soviet Union.

"Overseas investment by U.S.-based oil companies has nearly doubled since 1986, growing from less than 30% of worldwide spending in the mid-1980s to more than 50% in 1990. Even large U.S. firms that have been traditionally tied mainly to the U.S., like Amoco and Phillips, are going. And so is Arco."

He added, however, that Arco still sees some prospects in this country, such as Alaska, California and onshore and offshore the Gulf of Mexico.

Cook reported U.S. petroleum industry jobs have dropped 17% since 1981, a total of more than 330,000.

The Arco executive said the U.S. Senate's recent decision to shelve legislation that would open a portion of Alaska's Arctic National Wildlife Refuge (ANWR)—the country's top prospect—to oil and gas exploration "truly symbolizes the industry's despair."

The reason is the environment, he said, but Arco and others have been producing on the North Slope, only a few miles from ANWR, for 15 years, with clean air, clear streams and thriving caribou.

Imported oil cost the U.S. more than $50-billion last year, far more than the country's entire trade deficit with Japan, Cook said.

The issue boils down to, "Do we want a domestic exploration and production industry? If we do not, then we're on the right path.... A defeatist philosophy has taken hold in this country [that says] trying to maintain our energy strength is too hard on our air, water, land and wildlife. So let's get the stuff somewhere else—until we can do away with it altogether.

"The American consumer wants to use petroleum products, but he doesn't want the crude produced at home—and he's not at all certain he wants it refined at home, either. In fact, he may not want any crude oil at all, or gas or coal or nuclear—just some wonderful form of energy that miraculously transports him from place to place, without having to go to the trouble of digging it up and refining it into something useful like gasoline or jet fuel."

West Coast view

In the West, oil has been abundant in California for most of this century and in Alaska since the mid-1970s, but without new discoveries, production is declining over all. As Alaskan production falls off in the 1990s, the seven western states will become dependent on oil imports, says Bruce Wilson, a fuels and transportation economist in Arlington, Va.

In a study prepared last year for the Coalition for American Energy Security (CAES), he predicts that without a major new oil discovery in Alaska, the Pacific Coast and adjoining states will become largely dependent on imported oil by 2010, when imports will account for 66% of their supplies. The study covers Alaska, Washington, Oregon, Nevada, California, Arizona and Hawaii.

Alaskan production displaced crude imported from the Persian Gulf, but that production has peaked and will drop sharply by the end of the century, Wilson says. Most of the oil that will supplant it will again come from the Persian Gulf.

California, Nevada and Arizona will be 50% dependent on imported oil by 2000, and Washington and Oregon will be 66% dependent by then. Hawaii, which obtains 40% of its oil supplies from Alaska, will become totally dependent on foreign oil by 1996, he says. Alaskan crude hasn't been greatly used in Hawaii because its two refineries are engineered to process high-gravity, low-sulfur overseas crude.

The future is perhaps even bleaker because the crude oil pipeline that crosses Alaska will have to shut down prematurely if another major North Slope field is not discovered in the next six or seven years, reports the U.S. Dept. of Energy (DOE). The only oil prospect believed to be of this size is the ANWR, which is currently off limits.

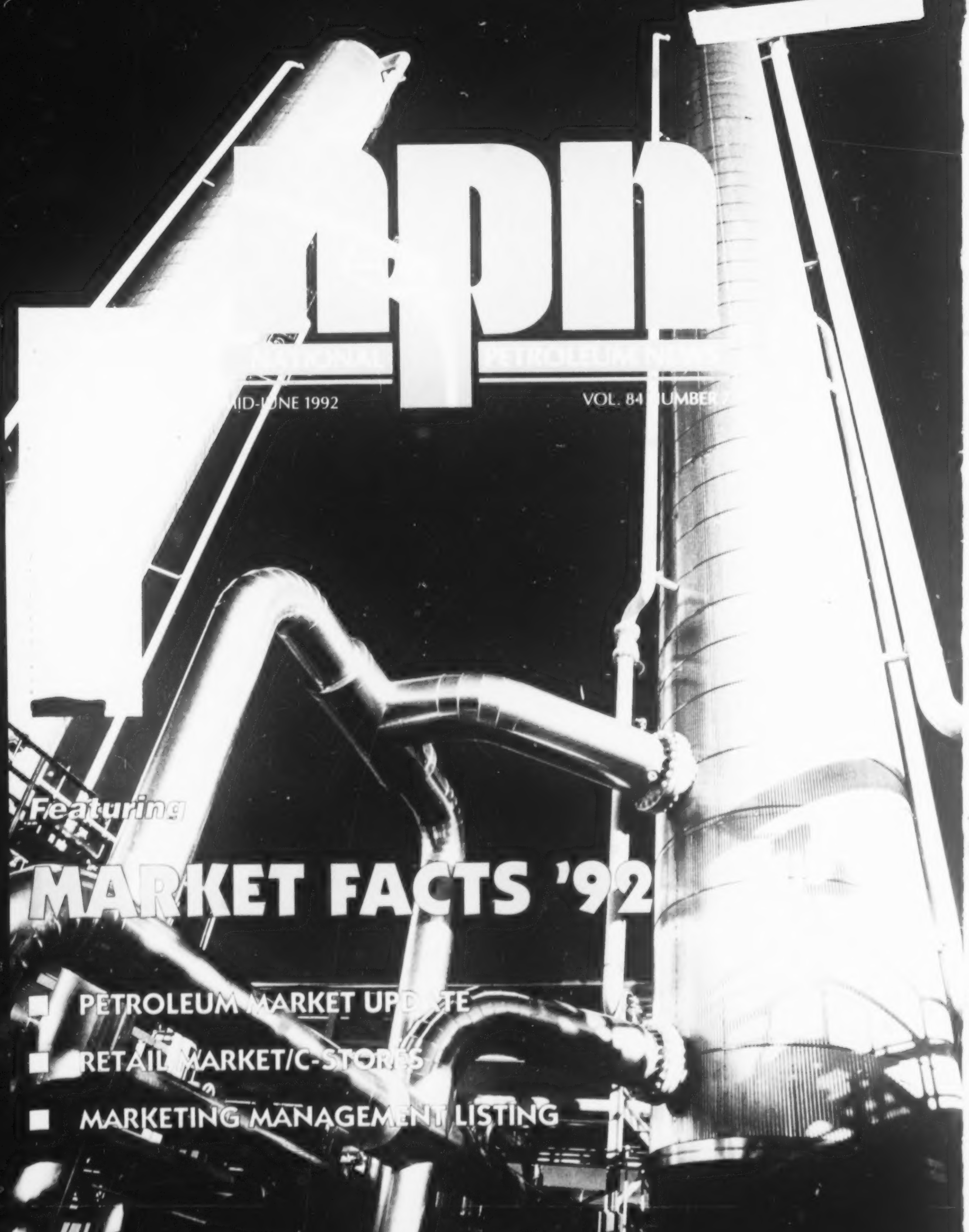
The DOE study, done in cooperation with the U.S. Dept. of Interior and Alaska, considers 600,000 b/d the minimum practical throughput of the Trans Alaska Pipeline. (The pipeline is running 1.6-million to 1.8-million b/d now.) Below that the oil will cool and get thicker, causing wax formation. Only costly mechanical revisions in the line and pump stations could solve the problems. With declining production, such revisions wouldn't make economic sense. The shutdown point is considered 300,000 b/d.

DOE concludes that unless new large ANS oil fields are developed, the pipeline will likely shut down in 2009, leaving as many as 1-billion bbl. of recoverable crude behind, a loss that can only be made up by increasing imports.

The Interior Dept. estimates there is a 46% chance of discovering economically recoverable oil on the coastal plain of the ANWR—possibly as much as 9.2-billion bbl., or 1-million b/d for 20 years or more. The American Assn. of Petroleum Geologists believes the ANWR could hold 15-billion bbl. of recoverable oil, or 33 years of production.

These ponderables and imponderables paint an uncertain and often depressing picture. What is certain, however, is that the U.S. is moving rapidly to greater dependence on foreign oil and the insecurity that goes with it. The consequences could be, perhaps inevitably, military.

Arco's Cook asks, "Do we want an energy policy...that makes sense, that balances domestic petroleum production against imports and prevents us from putting all our eggs into OPEC's basket? Or do we want to go to war every time the oil supply lines are threatened?"



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Featuring

MARKET FACTS '92

- PETROLEUM MARKET UPDATE
- RETAIL MARKET/C-STORES
- MARKETING MANAGEMENT LISTING

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Editor's Viewpoint

A few months ago, we introduced a new logo and cover design for *National Petroleum News.* At the time, our new publisher, Arleigh Hupp, remarked: "Having served the information needs of petroleum marketers for over eight decades, we have changed our cover design with caution and a certain celebration. Caution because of *NPN's* strong traditions, and celebration in being able to move ahead with a changing industry and to reaffirm our mission of producing the most professional editorial product, both in appearance and for news and informational value.

"Most of all," Arleigh said, "the new design reflects our perceptions of a fast-changing petroleum marketplace," and especially the exciting new images and designs of petroleum facilities that are emerging throughout the country.

In other words, just as petroleum marketers everywhere are improving and modernizing their facilities, we at *NPN* are striving to sharpen up our magazine's appearance. But there's a lot more than a cosmetic improvement involved here. For this special mid-June issue of *NPN*, we have introduced some changes in format that we believe will make the information presented better organized and easier to read—and especially to make data you're looking for easier to locate.

I'm sure you've noticed that we have also modified our cover treatment on this issue, in keeping with these other changes. It is our belief that the headline: "Market Facts '92" embodies the concept of this issue with greater precision. That concept is to present a wide-ranging body of market facts and industry data that will be useful to marketers as a reference and a guide to planning in the year ahead.

Several key members of our *NPN* staff have done an outstanding job in designing and implementing the changes and improvements in this issue. Julie McDonough, director of editorial production, Marilyn Roberts, corporate promotions design director, and Maryann Keblusek, special projects editor, deserve special mention for the cover design, improved graphics treatment and color coordination of the various editorial sections. And copy editor Greg Lindenberg, ably assisted by Arlene Clatts and Caroline Ward, has done a great job coordinating the mass of facts and figures presented here.

Change is necessary in today's scheme of things. But there is one thing that will never change, and that is *NPN's* commitment to giving you and all of our readers the most complete compilation of industry facts available, year in and year out.

—Don Smith

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Mid-June 1992 **Vol. 84 No. 7**

FEATURES

ANNUAL REPORTS
An analysis of the leading oil companies, their assets, finances, rankings and operations 12

BRANDED RETAIL OUTLETS
Updated reports on gasoline marketing in the U.S.; includes *NPN*'s most current outlet survey and convenience store summary 47

CAPITAL SPENDING
A report on what major oil companies spent on exploration/production and refining/marketing, plus foreign and U.S. direct investments in petroleum 32

DISTRIBUTION
NPN's report on how oil companies handle product distribution, plus state-by-state retail outlet counts 35

FUEL OIL
Total sales by states and end-users for distillates, kerosine and residual fuel oil, plus industry profiles 56

IMPORTS
A special section covering top importers, U.S. dependency, import role in domestic demand, plus much more 70

INTERNATIONAL
An overview of production, refining and marketing activities around the world, with special emphasis on Canada 74

MOTOR FUEL
Update of U.S. gasoline, gasohol and diesel consumption by state and month 94

PRICES
Domestic and international prices for gasoline, distillate and residual heating oils, diesel kerosine and crude oil 106

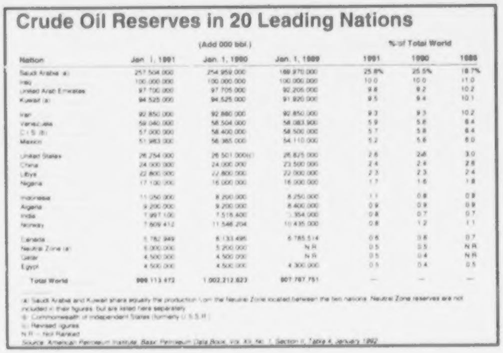
RETAIL MARKET SHARE
Exclusive national gasoline share-of-market rankings of the top U.S. marketers 144

REFINERIES
Complete listings of U.S. refineries and capacities by company and by state, changes in refinery capacity and a breakdown of lubrication oil and wax capacities 172

TBA/AFTERMARKET
What's happening the the after-market, with special emphasis on tire and battery activity 170

ASSOCIATION DIRECTORY
Addresses and phone numbers of oil marketing and related associations and key personnel 186

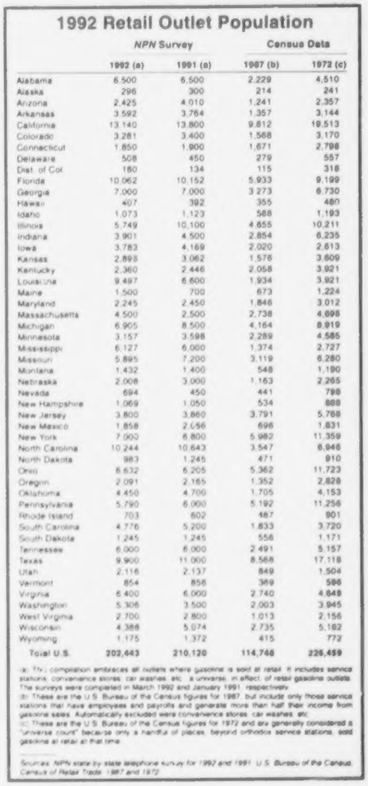
MARKETING MANAGEMENT DIRECTORY
A list of oil marketing companies with addresses, phone numbers and key marketing personnel 194



Crude Oil Reserves in 20 Leading Nations

Nation	(Add 000 bbl.) Jan. 1, 1991	Jan. 1, 1990	Jan. 1, 1989	% of Total World 1991	1990	1989
Saudi Arabia (a)	257,504,000	254,959,000	169,970,000	25.8%	25.5%	18.7%
Iraq	100,000,000	100,000,000	100,000,000	10.0	10.0	11.0
United Arab Emirates	97,700,000	97,705,000	92,205,000	9.8	9.2	10.2
Kuwait (a)	94,525,000	94,525,000	91,920,000	9.5	9.4	10.1
Iran	92,850,000	92,860,000	92,850,000	9.3	9.3	10.2
Venezuela	59,040,000	58,504,000	58,083,900	5.9	5.8	6.4
C.I.S. (b)	57,000,000	58,400,000	58,500,000	5.7	5.8	6.4
Mexico	51,983,000	56,365,000	54,110,000	5.2	5.6	6.0
United States	26,254,000	26,501,000(c)	26,825,000	2.6	2.6	3.0
China	24,000,000	24,000,000	23,500,000	2.4	2.4	2.6
Libya	22,800,000	22,800,000	22,000,000	2.3	2.3	2.4
Nigeria	17,100,000	16,000,000	16,000,000	1.7	1.6	1.8
Indonesia	11,050,000	8,200,000	8,250,000	1.1	0.8	0.9
Algeria	9,200,000	9,200,000	8,400,000	0.9	0.9	0.9
India	7,997,100	7,518,400	7,354,000	0.8	0.7	0.7
Norway	7,609,412	11,546,204	10,435,000	0.8	1.2	1.1
Canada	5,782,949	6,133,495	6,785,514	0.6	0.6	0.7
Neutral Zone (a)	5,000,000	5,200,000	N.R.	0.5	0.5	N.R.
Qatar	4,500,000	4,500,000	N.R.	0.5	0.4	N.R.
Egypt	4,500,000	4,500,000	4,300,000	0.5	0.4	0.5
Total World	999,113,472	1,002,212,823	907,787,751	—	—	—

(a) Saudi Arabia and Kuwait share equally the production from the Neutral Zone located between the two nations. Neutral Zone reserves are not included in their figures, but are listed here separately.
(b) Commonwealth of Independent States (formerly U.S.S.R.)
(c) Revised figures
N.R. — Not Ranked
Source: American Petroleum Institute, *Basic Petroleum Data Book, Vol. XII, No. 1, Section II, Table 4, January 1992*



1992 Retail Outlet Population

	NPN Survey 1992 (a)	1991 (a)	Census Data 1987 (b)	1972 (c)
Alabama	6,500	6,500	2,229	4,510
Alaska	296	300	214	241
Arizona	2,425	4,010	1,241	2,357
Arkansas	3,592	3,764	1,357	3,144
California	13,140	13,800	9,812	19,513
Colorado	3,281	3,400	1,568	3,170
Connecticut	1,850	1,900	1,671	2,798
Delaware	508	450	279	557
Dist. of Col.	180	134	115	318
Florida	10,062	10,152	5,933	9,199
Georgia	7,000	7,000	3,273	6,730
Hawaii	407	392	355	480
Idaho	1,073	1,123	588	1,193
Illinois	5,749	10,100	4,855	10,211
Indiana	3,901	4,500	2,854	6,235
Iowa	3,783	4,169	2,020	2,813
Kansas	2,898	3,062	1,576	3,609
Kentucky	2,360	2,446	2,058	3,921
Louisiana	9,497	6,600	1,934	3,921
Maine	1,500	700	673	1,224
Maryland	2,245	2,450	1,846	3,012
Massachusetts	4,500	2,500	2,738	4,698
Michigan	6,905	8,500	4,164	8,919
Minnesota	3,157	3,598	2,289	4,585
Mississippi	6,127	6,000	1,374	2,727
Missouri	5,895	7,200	3,119	6,280
Montana	1,432	1,400	548	1,190
Nebraska	2,008	3,000	1,163	2,265
Nevada	694	450	441	798
New Hampshire	1,069	1,050	534	888
New Jersey	3,800	3,860	3,791	5,768
New Mexico	1,858	2,056	696	1,831
New York	7,000	6,800	5,982	11,359
North Carolina	10,244	10,643	3,547	6,946
North Dakota	983	1,245	471	910
Ohio	6,632	6,205	5,362	11,723
Oregon	2,091	2,165	1,352	2,828
Oklahoma	4,450	4,700	1,705	4,153
Pennsylvania	5,790	6,000	5,192	11,256
Rhode Island	703	602	467	901
South Carolina	4,776	5,200	1,833	3,720
South Dakota	1,245	1,245	556	1,171
Tennessee	6,000	6,000	2,491	5,157
Texas	9,900	11,000	8,568	17,118
Utah	2,116	2,137	849	1,504
Vermont	854	856	369	596
Virginia	6,400	6,000	2,740	4,848
Washington	5,306	3,500	2,003	3,945
West Virginia	2,700	2,800	1,013	2,156
Wisconsin	4,388	5,074	2,735	5,182
Wyoming	1,175	1,372	415	772
Total U.S.	202,443	210,120	114,746	226,459

(a) This compilation embraces all outlets where gasoline is sold at retail. It includes service stations, convenience stores, car washes, etc., a universe, in effect, of retail gasoline outlets. The surveys were completed in March 1992 and January 1991, respectively.
(b) These are the U.S. Bureau of the Census figures for 1987, but include only those service stations that have employees and payrolls and generate more than half their income from gasoline sales. Automatically excluded were convenience stores, car washes, etc.
(c) These are the U.S. Bureau of the Census figures for 1972 and are generally considered a "universe count" because only a handful of places, beyond orthodox service stations, sold gasoline at retail at that time.

Sources: NPN state by state telephone survey for 1992 and 1991; U.S. Bureau of the Census, Census of Retail Trade, 1987 and 1972.

Index

A

Accessories
- See TBA/Aftermarket

Advertising
- TV ad spending 18

Aftermarket
- See TBA/Aftermarket

Annual Reports
- By company 13
- Earnings, 1991 vs. 1990 14
- Downstream earnings 15
- Companies ranked by total assets, sales, income 12

Associations
- Directory, personnel 186

Automotive
- Consumer spending 122
- Gasoline consumption 94
- Licensed drivers by sex, state 23
- Motor oil 88
- Passenger car efficiency 24
- State/driving relationships 25
- Vehicle registrations by state 22

B

Batteries
- See TBA/Aftermarket

Brand Names
- Gasoline/motor oil 26
- Canadian gasoline/motor oil 79

Bulk Plants, Terminals, Etc.
- See Distribution

Buses
- See Automotive

C

Canada
- Autos per household 82
- Brand names 79
- Branded retail outlets by province/company 78
- Distribution by company 78
- Licensed drivers 82
- Gasoline outlets by province 80
- Gasoline sales 77
- Heating fuels by province/type 82
- Market share by type of outlet 80
- New vehicle sales 82
- Petroleum supply/demand 77
- Pump prices 83
- Sales of car batteries 82
- Vehicle registration by province/type 82

Capital Spending
- Historical overview 32
- Foreign and U.S. investments 33

Commission Agents
- See Distribution

Convenience Stores
- Data 129-131
- Gasoline sales 129
- Average sales 129
- Margins 129
- Sales/volume 129
- Profit/loss, 1990-1991 130
- Store investments 131
- Outlet summary 129

Crude Oil
- Imports 162
- Origin of Imports 162
- Production in 20 leading nations 75
- Production, U.S., 1981-1990 156
- Reserves in 20 leading nations 75
- Stocks 148
- World prices 115
- World production, 1989-1990 76
- World production by area 74
- World reserves by area 74

D

Demand
- See Supply/Demand

Diesel
- See Motor Fuel/Diesel

Directories
- Associations 186
- Oil companies/marketing management 194
- Refineries by company 172
- Refineries by state 177
- Washington guide 224

Distillates
- See Fuel Oil

Distribution
- By company, U.S 35
- By company, Canada 78

Distribution/Outlets
- Branded retail outlets by state/company 47
- Branded retail outlets, Canada by province/company 78

E

Employment
- Number of employees by category 54

F

Financial Reports
- See Annual Reports

Forecasts/Trends
- Fuel oil 65
- LP-gas 85
- Motor oil 88
- Self-serve vs. full-serve 126
- Service stations 122
- Supply/demand 158

Fuel Oil
- Distillate deliveries by state/use 56
- Distillate deliveries by annual use 65
- Distillate use by category 64
- Gas heat equipment shipments 64
- Homes with gas heat 64
- How new homes are heated 64
- Industry profile 66
- Kerosine deliveries by state/use 60
- Kerosine deliveries by category 64
- Residual deliveries by annual use 65
- Residual deliveries by state/use 62
- Residual use by category 64

G

Gasoline
- See Motor Fuel/Gasoline

Government
- See Washington Guide

Grease
- See Lubrication

H

Heating Oil
- See Fuel Oil

I

Imports
  Imports by PADD 72
  Role of imports 71
  Products imported 71
  Top 10 importers 70
  U.S. dependency 70

J

Jobbers
  See Distribution

K

Kerosine
  See Fuel Oil

L

Licensed Drivers
  See Automotive

LP-Gas
  Sales by state 84,86,87
  Sales by year/use 85
  Trends 85

Lubrication
  Lubo oil sales 88-90
  Distribution 88
  Quaterly indexes
  on lubricant sales 88
  Percentage changes by
  by product and quarters 88
  Lube Sales, ... 90

M

Marketing Areas
  See Distribution and
  Distribution/Outlets

Marketing/Management
  Directory/personnel 194

Motor Fuel/Diesel
  Consumption by state 102
  Highway sales by state 103
  Consumption by month, 1990 ... 104
  Consumption by month, 1991 ... 105

Motor Fuel/Gasohol
  Consumption by month, 1990 ... 100
  Consumption by month, 1991 ... 101

Motor Fuel/Gasoline
  Gasoline consumption
  by month, 1990 96
  Gasoline consumption
  by month, 1991 97
  Consumption by state 94
  Consumption by state,
  ranked 98
  Octanes 95
  Retail prices 106

Motor Oil
  See Lubrication

Motor Vehicles
  See Automotive

O

Octanes
  See Motor Fuel/Gasoline

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Oil Heat
  See Fuel Oil

Outlets
  See Distribution/Outlets

P

Prices
  Diesel fuel and household kerosine-international 115
  Distillate fuel oil, supplier prices 112
  Gasoline, by grades/months 109
  Gasoline, by type of seller 110
  Gasoline and fuel oil-international 115
  Product, for resale 111
  Product prices to end-users 111
  Residential fuel oil, selected states 112
  Residual fuel oil supplier prices 113
  Retail gasoline prices for selected areas 106
  Spot market product prices 116
  World crude oil, 1989-1991 114

R

Refineries
  Refineries and capacities by state 177
  Refineries and capacities by company 172
  Refinery changes 180
  Refining capacity, 1980-1990 183

Repair
  See Service Job Analysis and TBA/Aftermarket

Residual Oil
  See Fuel Oil

Retail Market
  Convenience store data 129-131
  Convenience store gasoline sales 129
  Convenience store population 118
  Convenience store profits 130
  Convenience store volume 129
  Convenience store summary 129
  Market share by type of outlet 120
  Outlet rankings 124
  Self-service appeal 126
  Service station customers 122
  Service station Dollar volumes 122
  Service station population 118
  Service station rank in sales 122
  Service station sales to passenger cars 122

S

Self-Service
  See Retail Market

Service Stations
  See Retail Market

Share of Market
  Concentration ratios 147
  National market shares by company 144
  Historical overview 144
  Top 20 companies 146

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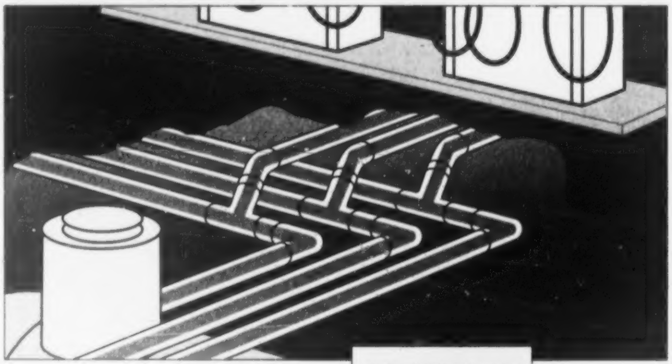

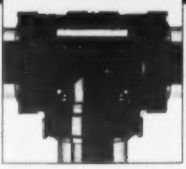

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Storage Capacity
- Shell storage capacity, 1990 185
- Working storage capacity, 1990 185

Supply/Demand
- Consumption by states 164
- Crude and product inventories.. 160
- Crude oil imports 164
- Domestic supply of oil products 164
- Domestic supply trend 160
- Imports, crude, residual, other 164
- Origin of imports 164
- Petroleum products supplied 150
- Refinery/bulk terminal stocks by state/PAD 154
- Refinery operations data 160
- Role of imports in domestic demand 71
- Stocks of crude oil 148
- Stocks of distillate fuel oil 149
- Stocks of distillate fuel oil by month 152
- Stocks of motor gasoline by month 152
- Stocks of residual fuel oil by month 152
- Supply/demand forecast 158
- Supply and production, principle products 164
- U.S. crude oil production, 1981-1990 156
- U.S. estimated petroleum balance 160

T

Taxes
- State collections 166
- State-Federal taxes 167
- Net revenues by states 168

TBA/Aftermarket
- Antifreeze sales 170
- Battery shipments 171
- Chassis lubrication intervals 171
- Drain intervals-crankcase/automatic transmission 171
- Replacement batteries 171
- Where customers get tuneups.. 170

W

Washington Guide
- Government agencies, Congress 224

Half of Oil Companies Increase Asset Values; Half Are Down

Approximately half (a total of 12) of the 23 U.S. oil companies with assets of $1-billion or more improved their corporate values in 1991. The other half (a total of 11) experienced declines in asset values for the year. Seven of the companies achieved new asset peaks in 1991.

All in all, it was a relatively flat year in terms of changes in asset valuation for the major companies. In 1990, by comparison, 20 companies increased assets over the previous year, and some of the increases were sizable. In 1991, most changes, up and down, were relatively moderate.

One exception was Citgo, which bettered its 1990 asset base by 40% last year and gave further evidence that the company is on a fast growth track. The previous year, Citgo racked up a 47% increase in assets.

The companies which reached new asset peaks in 1991 included Mobil, Arco, Coastal, Ashland, Fina, Citgo and Diamond Shamrock. It's interesting to note that five of the seven firms with record assets are second-tier oil companies or independent refiner-marketers.

Exxon, the nation's largest oil company, broke a string of seven consecutive years of asset improvements in 1991. However, the decline in assets amounted to only $147-million, which for a company of Exxon's dimensions, has to be considered inconsequential.

While many oil companies have shown steady asset growth over the years, several others have experienced rather drastic declines from earlier peak years. Included in this group are Texaco, down 30% from its all time high of $38-billion in 1984, Sun, off 45% from 1985, Phillips, down 32%, and Murphy, down 25%.

Exxon remains the No. 2 company in the Fortune 500 sales ranking, followed by Mobile (No. 5) and Amoco (No. 10). Citgo moved into the 500 elite back in 1991, ranking 54th.

Ranking the Top 23 Marketing Companies

	Total Assets		Gross Revenues		Net Income		Sales Ranking Among Top 500	
Company	**1991**	**1990**	**1991**	**1990**	**1991**	**1990**	**1991**	**1990**
Exxon	1	1	1	1	1	1	2	2
Mobil	2	2	2	2	2	5	5	5
Chevron	3	3	3	4	5	3	10	10
Amoco	4	4	5	5	3	6	14	12
Shell	5	5	6	6	17	10	15	14
Texaco	6	6	4	3	4	7	9	8
Arco	7	7	7	7	7	4	23	21
BP America	8	8	8	8	21	2	NR	NR
Conoco	9	10	9	9	6	9	NR	NR
Phillips	10	9	11	11	8	11	32	27
Marathon	11	11	10	10	22	8	NR	NR
Unocal	12	12	13	13	14	13	48	45
Coastal	13	13	14	14	12	16	49	51
Amerada Hess	14	14	17	17	13	12	80	68
Sun	15	15	12	12	23	15	44	37
Pennzoil	16	16	20	20	18	21	168	192
Ashland	17	17	15	15	9	17	52	56
Kerr-McGee	18	18	19	18	11	18	142	129
FINA	19	19	18	19	15	19	141	124
Citgo	20	20	16	16	10	14	54	NR
Murphy	21	21	23	21	19	20	223	210
Diamond Shamrock	22	23	22	23	16	22	172	166
Total Petroleum	23	22	21	22	20	23	176	NR

NR = Not ranked in Fortune 500.

Source: Oil company annual reports, other company data; Fortune magazine.

Major Oil Company 1991 Annual Reports

Financial

Company	Gross Sales– Operating Revenues (Add 000,000)			Net Income Add (000,000)			Net Income % of Gross Sales	
	1991	1990	% Change	1991	1990	% Change	1991	1990
Amerada Hess	$6,416	$7,081	(9.4)	$84	$483	(82.6)	1.3	6.8
Amoco	25,325	28,010	(9.6)	1484(a)	1,913	(22.4)	5.9	6.8
Arco	18,922	19,896	(4.9)	709	2,011	(64.7)	3.7	10.1
Ashland	9,246	8,977	3.0	145	182	(20.3)	1.6	2
BP America	16,797	18,620	(8.8)	(53)	2,631	(102.0)	0.3	14.1
Chevron	40,121	41,540	(3.4)	1,293	2,157	(40.1)	3.2	5.2
Citgo(b)	8,954	9,924	(9.8)	136	99	N/A	1.5	N/A
Coastal	9,549	9,614	(0.7)	96	226	(57.5)	1	2.4
Conoco (Du Pont)	15,851	15,976	(0.8)	814	1,078	(24.5)	5.1	6.7
Diamond Shamrock	2,576	2,708	(4.9)	37	77	(52.1)	1.4	2.9
Exxon	116,492	116,940	(0.4)	5,600	5,010	11.8	4.8	4.3
Fina	3,336	3,978	(16.1)	42	126	(66.7)	1.3	3.2
Getty (c)	1,154	1,263	(8.6)	(12)	(10)	(26.3)	1.07	0.76
Kerr McGee	3,274	3,683	(11.1)	102	150	(32.0)	3.1	4.1
Marathon (USX)	13,975	14,616	(4.4)	(71)	508	(113.8)	N/A	3.5
Mobil	63,227	64,472	(1.9)	1,920	1,929	(0.5)	3	3
Murphy (d)	1,601	1,867	(14.2)	(7)	137	(105.2)	0.4	7.3
Phillips	13,259	13,975	(5.1)	258	779	(66.9)	1.9	5.6
Shell	22,411	24,790	(9.6)	2	1,036	(100.0)	0.1	4.2
Sun	10,184	11,543	(11.8)	(387)	229	(26.9)	3.8	2
Texaco	38,322	41,822	(8.4)	1,294	1,450	(10.8)	3.4	3.5
Total Petroleum	2,486	3,683	(6.5)	(11.5)	42	(127.4)	0.5	1.6
Unocal	9,685	10,645	(9.0)	73	401	(81.8)	0.75	3.77

Operating

Company	Net Crude Production b/d				Refinery Crude Runs b/d				Domestic Refined Product Sales	
	Domestic		Foreign		Domestic		Foreign			
	1991	1990	1991	1990	1991	1990	1991	1990	1991	1990
Amerada Hess	66,063	62,434	119,382	98,347	320,000	383,000	—	—	413,000	428,000
Amoco	342,000	361,000	403,000	421,000	908,000	903,000	—	32,000	1,052,000	1,014,000
Arco	668,500	638,300	75,700	67,100	407,600	401,100	—	—	466,400	444,000
Ashland	1,460	1,843	32,390	40,018	326,461	334,579	—	187,158	451,041	455,771
BP America	738,000	737,000	618,000	585,000	701,000	699,000	1,016,000	1,080,000	891,000	925,000
Chevron	958,000	935,000	—	381,000	1,795,000	1,900,000	—	155,000	2,471,000	2,482,000
Citgo	—	—	—	—	377,000	269,000	—	218,000	882,000	633,000
Coastal	11,307	10,285	—	—	345,000	255,000	—	—	738,000	779,800
Conoco (Du Pont)	113,000	111,000	254,000	279,000	386,000	382,000	234,000	238,000	503,000	490,000
Diamond Shamrock	—	—	—	—	140,244	144,765	19,759	16,765	188,609	184,557
Exxon	619,000	640,000	980,000	962,000	937,000	868,000	2,396,000	2,408,000	1,210,000	1,109,000
Fina	21,044	22,496	—	—	175,000	175,000	—	—	240,254	292,261
Getty	—	—	—	—	—	—	—	—	—	—
Kerr McGee	23,000	20,700	27,400	29,700	129,500	141,800	—	—	220,700	215,300
Marathon (USX)	126,800	126,100	68,000	71,000	542,300	567,200	—	—	709,000	689,000
Mobil	—	324,000	—	455,000	764,000	729,000	1,210,000	1,184,000	922,000	903,000
Murphy	13,326	13,449	20,169	25,589	101,975	101,312	25,969	22,628	104,011	106,568
Phillips	94,000	95,000	121,000	123,000	274,000	297,000	—	—	534,000	524,000
Shell	456,000	461,000	81,000	80,000	1,002	965	—	—	1,195,000	1,188,000
Sun	—	—	57,500	64,700	531,100	554,300	72,100	66,900	629,100	640,500
Texaco	456,000	458,000	334,000	352,000	661,000	679,000	713,000	737,000	869,000	858,000
Total Petroleum	—	—	—	—	195,900	194,400	—	—	222,400	215,800
Unocal	169,000	153,000	105,000	101,000	263,000	260,000	—	—	436,000(e)	443,000(e)

(a) Includes $311-million cumulative benefits of change in accounting for income taxes.
(b) Champlain Refining & Chemicals, Inc. consolidated into Citgo January 1, 1991; 1990 figures adjusted or not available.
(c) Year ending January 31.
(d) Income from continuing operations before minority interest and extra ordinary.
(e) Includes 50% equity portion of UNO-VEN.
Source: Annual Reports of oil companies and other company data.

Oil Company Rankings by Marketers With

(000,000)

Company	Assets 1991	1990	1989	1988	1987	1986
Exxon	$87,560	$87,707	$83,219	$74,293	$74,042	$69,484
Mobil	42,187	41,665	39,080	38,820	40,272	39,412
Chevron	34,636	35,089	33,884	33,968	34,101	34,853
Amoco	30,510	32,209	30,430	29,919	25,122	27,706
Shell	27,998	28,496	27,559	27,169	17,571	26,214
Texaco	26,182	25,975	25,636	26,337	33,773	34,940
Arco	24,492	23,864	22,161	25,514	22,890	21,604
BP America	22,288	21,087	18,420	22,452	22,807	20,169
Conoco	12,140	11,640	10,392	9,745	9,146	9,073
Phillips	11,473	12,130	11,256	11,968	12,111	12,403
Marathon	11,644	11,931	11,529	8,966	9,091	11,022
Unocal	9,836	9,762	9,257	9,508	10,062	10,246
Coastal	9,487	9,282	8,899(a)	7,865	7,989(a)	7,777(a)
Amerada Hess	8,841	9,057	6,867	5,372	5,305	4,914
Sun	7,143	7,969	8,699	8,616	12,580	12,396
Pennzoil	5,231	5,362	4,990(a)	4,880	2,805	3,369
Ashland	5,449	5,118	4,882(a)	4,254	4,074	3,805
Kerr-McGee	3,421	3,473	3,236	3,123	3,132	3,090
Fina	2,861	2,846	2,505	2,356	1,836	1,777
Citgo	3,262	2,334	1,587	1,343	1,191	1,209
Murphy	2,175	2,127	2,750	2,068	2,067	1,980
Diamond Shamrock	1,222	1,134	1,027	843	N/A	N/A
Total Petroleum	1,040	1,151	1,250	N/A	N/A	N/A

(a) Revised.

Source: Oil company annual reports and other company data.

Quarterly & Full-Year Earnings, 1991 vs. 1990

(000,000)

Company	1 Q 1991	2Q 1991	3 Q 1991	4Q 1991	Full-Yr. 1991	Full-Yr. 1990	% Change
Exxon	$2,240.0	$1,125.0	$1,115.0	$1,120.0	$5,600.0	$5,010.0	11.85%
Mobil	710.0	445.0	365.0	401.0	1,921.0	1,929.0	(0.4)
Chevron	557.0	384.0	313.0	39.0	1,293.0	2,157.0	(0.4)
Amoco	803.0	238.0	290.0	153.0	1,484.0	1,913.0	(22.4)
Shell	125.0	(68.0)	(14.0)	23.0	20.0	1,036.0	(98.1)
Texaco	415.0	269.0	286.0	324.0	1,294.0	1,450.0	(10.6)
BP America	18.0	426.0	N/A	N/A	N/A	N/A	N/A
Arco	351.0	246.0	(156.0)	268.0	709.0	2,011.1	(64.7)
Phillips	107.0(a)	16.0	56.0	79.0	258.0	1,081.0	(66.9)
Conoco	322.0	229.0	209.0	54.0	814.0	1,078.0	(24.5)
Unocal	75.0	5.0	9.0	(16.0)	73.0	401.0	(81.8)
Marathon	71.0	64.0	23.0	(148.0)	358.0	1,081.0	(66.9)
Sun	41.0	43.0	(436.0)	(35.0)	(387.0)	229.0	—
Coastal	54.3	26.2	3.4	12.4	96.3	225.6	(57.3)
Amerada Hess	75.7	67.7	(7.5)	(51.6)	84.3	482.7	(82.5)
Pennzoil	(27.7)	12.2	32.1	4.4	21.0	93.8	(77.6)
Ashland*	26.6	66.7	62.5	29.0	N/A	N/A	N/A
Kerr-McGee	29.7	10.3	26.8	34.8	101.6	150.2	(32.8)
Fina	8.3	4.2	7.7	21.8	42.0	125.5	(66.6)
Murphy	25.6	(105.1)	43.6	24.7	(11.2)	113.9	—
Citgo	41.0	64.0	66.0	n/a?	332.8	327.8	1.5
Diamond Shamrock	4.3	17.7	17.4	(2.3)	37.1	77.5	(52.1)
Total Petroleum	(13.3)	6.6	3.3	(10.7)	(9.3)	31.2	—

Source: Oil company annual reports and other company data.

Assets of $1-Billion or More

% Change				Ranking by Year				
'91 vs. '90	'90 vs. '89	'89 vs. '88	'88 vs. '87	1991	1990	1989	1988	1987
(0.2)%	5.4%	12.0%	0.3%	1	1	1	1	1
1.3	6.6	0.7	(3.6)	2	2	2	2	2
(1.3)	3.6	0.1	(0.4)	3	3	3	3	3
(5.2)	5.8	1.7	19.1	4	4	4	4	6
(1.7)	3.3	1.6	(1.5)	5	5	5	5	5
0.8	1.3	2.7	(22.0	6	6	6	6	4
2.6	7.7	0.4	(6.0)	7	7	7	7	7
5.7	17.8	3.0	1.6	8	8	8	8	8
4.3	12.0	6.2	6.5	9	10	10	10	13
5.4	7.8	5.9	(1.2)	10	9	9	9	11
2.4	(1.7)	3.1	(1.4)	11	11	12	12	14
0.8	5.4	(2.0)	(5.5)	12	12	11	11	12
2.2	5.2	11.4	(1.6)	13	13	13	14	15
(2.4)	31.9	27.8	1.3	14	14	15	15	16
(10.4)	3.5	1.0	(31.5)	15	15	14	13	10
(2.4)	7.8	N/A	59.7	16	16	16	16	19
6.5	12.3	4.8	4.4	17	17	17	17	17
(1.5)	7.3	6.7	(0.3)	18	18	18	18	18
0.5	13.6	6.3	28.3	19	19	20	19	21
39.8	47.1	18.2	12.8	20	20	21	21	22
2.3	(22.3)	33.0	0.0	21	21	19	20	20
7.8	10.4	21.8	N/A	22	23	23	22	—
9.6	(7.2)	N/A	N/A	23	22	22	23	—

Downstream Earnings, 1991— 1990

(000,000)

Company	1 Q 1991	2Q 1991	3 Q 1991	4Q 1991	Full-Yr. 1991	Full-Yr. 1990	% Change
Exxon Total	$1,353.0	$532.0	$410.0	$261.0	$2,556.0	$1,315.0	94.0%
Domestic	256.0	113.0	98.0	47.0	514.0	78.0	559.0
Foreign	1,097.0	419.0	312.0	214.0	2,042.0	1,237.0	65.0
Mobil Total	442.0	279.0	173.0	37.0	931.0	633.0	47.0
Domestic	100.0	65.0	40.0	(87.0)	118.0	91.0	30.0
Foreign	342.0	214.0	133.0	124.0	813.0	542.0	50.0
Chevron Total	233.0(a)	50.0	126.0	(76.0)	333.0	763.0	(56.0)
Domestic	99.0	(16.0)	(10.0)	(226.0)	(153.0)	376.0	—
Foreign	134.0(a)	66.0	136.0	150.0	486.0	387.0	26.0
Texaco Total	271.0	194.0	200.0	170.0	835.0	618.0	35.0
Domestic	60.0	65.0	82.0	(19.0)	188.0	244.0	(23.0)
Foreign	211.0	129.0	118.0	189.0	647.0	374.0	(73.0)
Amoco (Worldwide)	214.0	227.0	94.0	109.0	644.0	370.0	74.0
Shell	4.0	5.0	(14.0)	127.0	(164.0)	88.0	—
BP America	—	—	—	—	—	—	—
Arco	74.0	85.0	59.0	48.0	266.0	439.0	(39.0)
Phillips	—	58.0	43.0	(7.0)	88.0	145.0	(39.0)
Conoco	—	160.0	44.0	—	—	562.0	—
Sun	38.0	73.0	8.0	(14.0)	105.0	155.0	(32.0)
Marathon	102.0	131.0(b)	65.0	83.0	401.0	551.0	(27.0)

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*Fiscal year ends 9/30

(a) Revised. (b) Operating income, not net.

Source: Oil company annual reports and other company data.

Assets, Peak vs. 1991

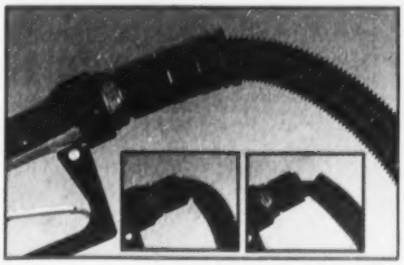
(000,000)

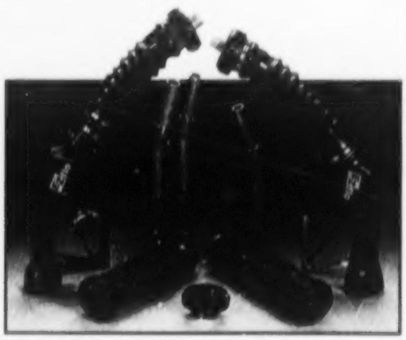
Company	Peak Year Total	Peak Year Total	1991 Total	% Change 1991 vs. Peak
Exxon	1990	$87,707	$87,560	(0.2)%
Mobil	1991	42,187	42,187	—
Chevron	1984	45,404	34,636	(23.7)
Amoco	1990	32,209	30,510	(5.2)
Shell	1990	28,496	27,998	(1.7)
Texaco	1984	37,774	26,182	(30.7)
Arco	1991	24,492	24,492	—
BP America	1987	22,807	22,288	(2.3)
Conoco	1985	14,155	12,140	(14.2)
Phillips	1984	16,955	11,473	(32.3)
Marathon	1990	11,931(a)	11,644	(2.4)
Unocal	1985	10,797	9,836	(8.9)
Coastal	1991	9,487	9,487	—
Amerada Hess	1990	9,057	8,841	(2.4)
Sun	1985	12,923	7,143	(44.7)
Pennzoil	1990	5,362(a)	5,231	(2.4)
Ashland	1991	5,499	5,449	—
Kerr-McGee	1983	3,806	3,421	(10.1)
Fina	1991	2,861	2,861	—
Citgo	1991	3,262	3,262	—
Murphy	1982	2,900	2,175	(25.0)
Total Petroleum	1990	1,151(a)	1,040	(9.6)
Diamond Shamrock	1991	1,222	1,222	—

(a) Revised.

Source: Oil company annual reports and other company data.

SOLUTIONS from EZ-flo.





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TV Ad Spending: Spot, Network Down in 1991

As might be expected during a recessionary year, most of the larger oil companies cut back on their television advertising expenditures in 1991. Total TV advertising budgets for the year were scaled back almost 6% to $195-million from 1990, when the companies spent a record $207-million. Still, 1991 was the second highest year ever for TV advertising investments.

According to data from the Television Bureau of Advertising, which monitors the ad expenditures of oil and other industries, there was a sizable shift from spot TV advertising by oil companies to network TV. Spot TV spending was down 10% and network TV outlays jumped 64%.

The Bureau considers the three big networks—ABC, CBS and NBC—the network segment and spot TV as the regional and sponsored programs.

Biggest increases in network TV ad spending were recorded by Marathon (up 332%) and Texaco, which doubled its network budget in 1991. Marathon also had a sizable increase of 124% in spot TV spending. Exxon was the largest spot advertiser at $15.3-million. Texaco spent more than anyone else of network advertising, almost $13-million.

Spot TV Spending (a)

(000)

Company	1991	1990	% Change
Exxon	$15,261.3	$15,175.0	0.6%
Chevron	13,815.2	19,699.0	(29.9)
Mobil	12,860.0	13,519.0	(4.9)
Texaco	12,739.0	12,566.0	1.4
Amoco	11,947.2	13,040.0	(8.4)
Pennzoil	11,934.5	11,946.0	—
Unocal	10,245.8	11,715.0	(12.5)
Shell	9,406.9	8,589.0	9.5
Sun	7,588.1	8,299.0	(8.6)
BP	7,306.2	7,743.0	(5.6)
Castrol	6,589.4	8,616.0	(23.5)
Arco	5,334.4	8,822.0	(39.5)
Citgo	4,088.8	3,775.0	8.3
Quaker State	4,070.1	3,963.0	2.7
Phillips	3,564.4	3,440.0	3.6
Marathon	3,067.8	1,369.0	124.1
Valvoline	2,656.9	—	—
Ashland	1,765.2	4,542.0	(61.1)
Amerada Hess	1,233.5	4,873.0	(74.7)
Kendall	1,124.1	—	—
Conoco	1,077.0	2,720.0	(60.4)
Total	**147,675.8**	**$164,410.0**	**(10.2)%**

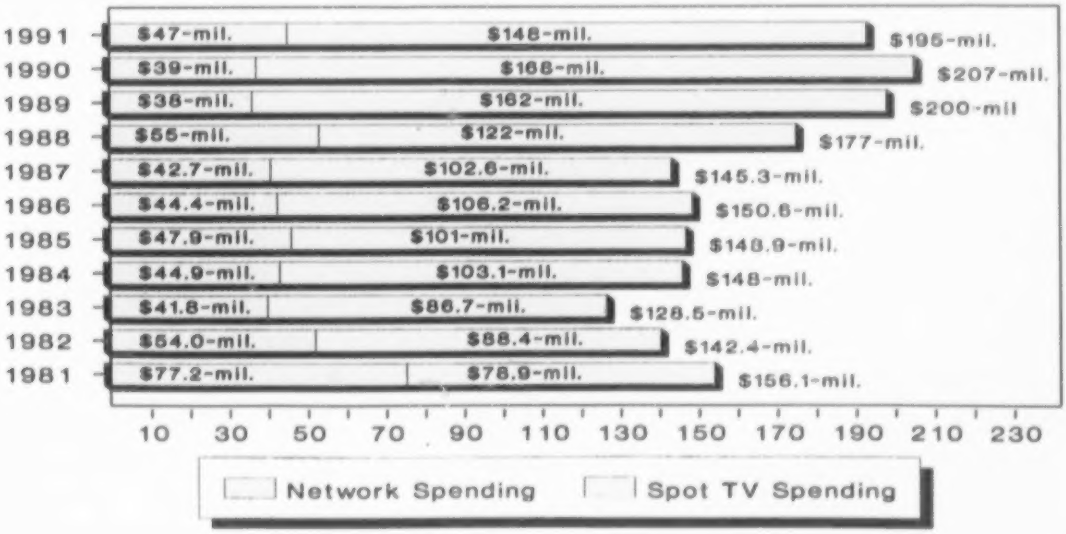
Network TV Spending (a)

(000)

Company	1991	1990	% Change
Texaco	$12,948.0	$6,754.0	97.0%
Castrol	11,045.0	7,186.0	54.0
Valvoline	9,566.0	—	—
Conoco	3,838.0	—	—
Mobil	2,140.0	2,044.0	(4.7)
BP	1,646.0	3,863.0	(57.4)
Shell	1,567.0	6,121.0	(74.4)
Motorcraft	1,295.0	800.0	61.9
Exxon	821.0	—	—
Marathon	596.0	138.0	331.9
Quaker State	726.0	893.0	(18.7)
Pennzoil	472.0	1,060.0	(55.5)
Amoco	375.0	—	—
Unocal	122.0	122.0	—
Total	**$47,157.0**	**$28,801.0**	**63.7%**

(a) Includes spending for gasoline and motor oil and petroleum company general promotions.
Source: Television Bureau of Advertising, Arbitron data, 1991.

Trends in Oil's TV Advertising Budgets



Current Automotive Registrations

	Automobiles			Trucks and Buses			All Motor Vehicles			Motorcycles
State	Registered 1990	Estimated 1991	% Chng.	Registered 1990	Estimated 1991	% Chng.	Registered 1990	Estimated 1991	% Chng.	Estimated 1991
Alabama	2,733,066	2,785,000	1.9	1,011,425	1,031,000	1.9	3,744,491	3,816,000	1.9	41,000
Alaska	302,121	306,000	1.3	175,204	177,000	1.0	477,325	483,000	1.2	11,000
Arizona	2,001,736	2,039,000	1.9	823,376	839,000	1.9	2,825,112	2,878,000	1.9	78,000
Arkansas	934,337	940,000	0.6	513,323	517,000	0.7	1,447,660	1,457,000	0.6	14,000
California	16,971,853	17,193,000	1.3	4,954,025	4,898,000	-1.1	21,925,878	22,091,000	0.8	652,000
Colorado	2,300,119	2,310,000	0.4	855,252	851,000	-0.5	3,155,371	3,161,000	0.2	107,000
Connecticut	2,471,504	2,461,000	-0.4	151,462	149,000	-1.6	2,622,966	2,610,000	-0.5	49,000
Delaware	406,240	409,000	0.7	119,849	121,000	1.0	526,089	530,000	0.7	9,000
Dist. of Col.	244,879	246,000	0.5	17,052	17,000	-0.3	261,931	263,000	0.4	3,000
Florida	8,694,852	8,886,000	2.2	2,254,954	2,292,000	1.6	10,949,806	11,178,000	2.1	208,000
Georgia	3,833,915	3,915,000	2.1	1,655,229	1,717,000	3.7	5,489,144	5,632,000	2.6	76,000
Hawaii	671,926	696,000	3.6	99,552	103,000	3.5	771,478	799,000	3.6	21,000
Idaho	636,250	651,000	2.3	417,288	413,000	-1.0	1,053,538	1,064,000	1.0	41,000
Illinois	6,239,676	6,249,000	-0.8	1,573,513	1,582,000	0.5	7,873,189	7,831,000	-0.5	173,000
Indiana	3,196,573	3,215,000	0.6	1,169,187	1,190,000	1.8	4,365,760	4,405,000	0.9	94,000
Iowa	1,880,368	1,909,000	1.5	751,605	759,000	1.0	2,631,973	2,668,000	1.4	165,000
Kansas	1,404,743	1,418,000	0.9	607,610	619,000	1.9	2,012,353	2,037,000	1.2	75,000
Kentucky	1,915,091	1,942,000	1.4	994,317	1,021,000	2.7	2,909,408	2,963,000	1.8	34,000
Louisiana	1,998,158	2,009,000	0.5	996,605	1,007,000	1.0	2,994,763	3,016,000	0.7	26,000
Maine	741,797	722,000	-2.7	234,813	230,000	-2.0	976,610	952,000	-2.5	34,000
Maryland	2,970,320	3,020,000	1.7	636,200	647,000	1.7	3,606,520	3,667,000	1.7	57,000
Massachusetts	3,223,859	3,168,000	-1.7	501,939	505,000	0.6	3,725,798	3,673,000	-1.4	53,000
Michigan	5,612,877	5,641,000	0.5	1,596,340	1,618,000	1.4	7,209,217	7,259,000	0.7	165,000
Minnesota	2,741,763	2,830,000	3.2	766,174	785,000	2.5	3,507,937	3,615,000	3.1	119,000
Mississippi	1,434,111	1,442,000	0.6	441,334	445,000	0.8	1,875,445	1,887,000	0.6	26,000
Missouri	2,759,818	2,778,000	0.7	1,144,861	1,166,000	1.8	3,904,679	3,944,000	1.0	69,000
Montana	457,263	471,000	3.0	325,890	334,000	2.5	783,153	805,000	2.8	21,000
Nebraska	912,688	913,000	0.0	471,158	469,000	-0.5	1,383,846	1,382,000	-0.1	22,000
Nevada	592,118	601,000	1.5	261,326	274,000	4.8	853,444	875,000	2.5	19,000
New Hampshire	751,347	760,000	1.2	194,396	194,000	-0.2	945,743	954,000	0.9	41,000
New Jersey	5,179,511	5,192,000	0.2	472,871	469,000	-0.8	5,652,382	5,661,000	0.2	86,000
New Mexico	806,207	811,000	0.6	495,054	500,000	1.0	1,301,261	1,311,000	0.7	31,000
New York	8,831,316	8,893,000	0.7	1,364,837	1,369,000	2.3	10,196,153	10,289,000	0.9	190,000
North Carolina	3,676,785	3,704,000	0.7	1,485,220	1,503,000	1.2	5,162,005	5,207,000	0.9	58,000
North Dakota	371,543	369,000	-0.7	258,296	255,000	-1.3	629,839	624,000	-0.9	19,000
Ohio	6,817,973	6,843,000	0.4	1,592,493	1,616,000	1.5	8,410,466	8,459,000	0.6	213,000
Oklahoma	1,710,717	1,731,000	1.2	938,334	959,000	2.2	2,649,051	2,690,000	1.5	60,000
Oregon	1,838,995	1,883,000	2.4	606,492	619,000	2.1	2,445,487	2,502,000	2.3	61,000
Pennsylvania	6,384,121	6,415,000	0.5	1,587,349	1,613,000	1.6	7,971,470	8,028,000	0.7	168,000
Rhode Island	563,333	567,000	0.7	108,474	106,000	-2.3	671,807	673,000	0.2	22,000
South Carolina	1,877,508	1,911,000	1.8	642,229	665,000	3.5	2,519,737	2,576,000	2.2	29,000
South Dakota	424,785	428,000	0.8	279,001	277,000	-0.7	703,786	705,000	0.2	29,000
Tennessee	3,552,828	3,633,000	2.3	891,280	910,000	2.1	4,444,108	4,543,000	2.2	80,000
Texas	8,714,154	8,866,000	1.7	4,085,661	4,147,000	1.5	12,799,815	13,013,000	1.7	158,000
Utah	789,347	787,000	-0.3	416,170	428,000	2.8	1,205,517	1,215,000	0.8	28,000
Vermont	341,552	342,000	0.1	120,244	120,000	-0.2	461,796	462,000	0.0	17,000
Virginia	3,775,728	3,811,000	0.9	1,162,334	1,196,000	2.9	4,938,062	5,007,000	1.4	62,000
Washington	2,979,369	3,041,000	2.1	1,277,497	1,294,000	1.3	4,256,866	4,335,000	1.8	113,000
West Virginia	752,762	751,000	-0.2	472,185	478,000	1.2	1,224,947	1,229,000	0.3	22,000
Wisconsin	2,756,994	2,823,000	2.4	914,865	949,000	3.7	3,671,859	3,772,000	2.7	186,000
Wyoming	308,731	317,000	2.7	219,690	228,000	3.8	528,421	545,000	3.1	21,000
Total	**143,549,627**	**145,043,000**	**1.0**	**45,105,835**	**45,671,000**	**1.3**	**188,655,462**	**190,741,000**	**1.1**	**4,156,000**

Source: Federal Highway Administration, Selected Highway Statistics, Table SS90-4, October 1991.

Estimated Licensed Drivers, by Sex and State, 1990 and 1991

	1990 (Actual)				1991 (Estimated) (Add 000)			% Change — Total Drivers	
State	**Male**	**Female**	**Total**	**% Male Drivers**	**Male**	**Female**	**Total**	**1990 vs. 1989**	**1990 vs. 1980**
Alabama	1,392,026	1,360,564	2,752,590	50.57	1,408	1,380	2,788	0.8	27.5
Alaska	172,950	141,350	314,300	55.03	175	143	318	0.7	42.4
Arizona	1,227,297	1,165,321	2,392,618	51.30	1,242	1,182	2,424	2.1	48.4
Arkansas	878,710	843,311	1,722,021	51.03	889	855	1,744	1.1	26.0
California	10,535,859	9,310,047	19,845,906	53.09	10,657	9,445	20,102	2.0	32.1
Colorado	1,026,200	1,016,803	2,043,003	50.23	1,038	1,031	2,069	0.8	2.3
Connecticut	1,054,539	1,159,607	2,214,146	47.63	1,067	1,176	2,243	0.9	7.4
Delaware	243,426	241,375	484,801	50.21	248	245	491	1.3	20.3
Dist. of Col.	210,778	201,534	412,312	51.12	213	204	417	0.7	18.1
Florida	4,778,636	4,452,769	9,231,405	51.76	4,834	4,517	9,351	2.3	34.4
Georgia	2,255,799	2,222,461	4,478,260	50.37	2,282	2,254	4,536	3.0	39.4
Hawaii	366,208	311,418	677,626	54.04	370	316	686	1.0	26.9
Idaho	361,253	342,931	704,184	51.30	365	348	713	1.5	19.8
Illinois	3,717,715	3,577,017	7,294,732	50.96	3,761	3,629	7,390	1.0	6.4
Indiana	1,850,007	1,751,347	3,601,354	51.67	1,872	1,777	3,649	0.6	2.0
Iowa	927,958	944,528	1,872,486	49.56	939	958	1,897	1.5	-7.4
Kansas	848,702	865,805	1,714,507	49.50	859	878	1,737	1.6	-3.6
Kentucky	1,225,596	1,176,065	2,401,661	51.03	1,240	1,193	2,433	1.3	17.9
Louisiana	1,290,566	1,284,894	2,575,460	50.11	1,306	1,303	2,609	0.3	14.0
Maine	440,502	446,540	887,042	49.66	446	453	899	1.4	29.8
Maryland	1,710,144	1,651,792	3,361,936	50.87	1,730	1,676	3,406	2.1	31.8
Massachusetts	2,176,846	2,052,465	4,229,311	51.47	2,202	2,082	4,284	2.0	13.5
Michigan	3,218,771	3,221,619	6,440,390	49.98	3,256	3,268	6,524	0.2	3.0
Minnesota	1,283,189	1,245,752	2,528,941	50.74	1,298	1,264	2,562	0.4	13.2
Mississippi	960,865	923,679	1,884,544	50.99	972	937	1,909	1.7	18.7
Missouri	1,863,591	1,824,490	3,688,081	50.53	1,885	1,851	3,736	1.1	16.6
Montana	330,899	272,715	603,614	54.82	335	277	612	0.2	4.1
Nebraska	548,345	540,332	1,088,677	50.37	555	548	1,103	1.5	2.6
Nevada	444,505	401,905	846,410	52.52	450	408	858	2.3	60.6
New Hampshire	425,025	418,445	843,470	50.39	430	424	854	1.6	37.5
New Jersey	2,938,968	2,645,759	5,584,727	52.63	2,973	2,684	5,657	1.3	24.2
New Mexico	558,383	515,433	1,073,816	52.00	565	523	1,088	1.0	33.7
New York	5,449,157	4,805,072	10,254,229	53.14	5,513	4,874	10,387	1.1	12.4
North Carolina	2,303,537	2,247,107	4,550,644	50.62	2,330	2,279	4,809	2.0	26.4
North Dakota	215,465	209,433	424,898	50.71	218	212	430	0.2	5.4
Ohio	3,760,666	3,666,743	7,427,409	50.63	3,804	3,720	7,524	0.2	-9.2
Oklahoma	1,137,074	1,140,466	2,277,540	49.93	1,150	1,157	2,307	1.6	21.5
Oregon	1,159,013	1,052,537	2,211,550	52.41	1,173	1,068	2,241	1.2	21.0
Pennsylvania	4,116,337	3,782,715	7,899,052	52.11	4,164	3,837	8,001	0.6	11.7
Rhode Island	341,610	329,041	670,651	50.94	346	334	680	2.6	15.5
South Carolina	1,182,475	1,190,350	2,372,825	49.83	1,196	1,207	2,403	1.9	30.8
South Dakota	248,878	243,500	492,378	50.55	252	247	499	0.1	4.8
Tennessee	1,658,225	1,676,200	3,334,425	49.73	1,678	1,700	3,378	1.3	23.8
Texas	5,736,644	5,400,050	11,136,694	51.51	5,803	5,478	11,281	0.3	30.0
Utah	521,799	524,307	1,046,106	49.88	528	532	1,060	1.3	35.3
Vermont	210,920	201,000	411,920	51.20	213	204	417	1.0	25.6
Virginia	2,213,348	2,175,457	4,388,805	50.43	2,239	2,207	4,446	1.8	34.7
Washington	1,724,508	1,652,163	3,376,671	51.07	1,745	1,676	3,421	1.4	35.9
West Virginia	671,929	611,774	1,283,703	52.34	680	621	1,301	0.4	-9.8
Wisconsin	1,702,803	1,625,069	3,327,872	51.17	1,723	1,648	3,371	0.6	14.8
Wyoming	173,803	159,743	333,546	52.11	176	162	338	2.3	4.5
Total	**85,792,449**	**81,222,800**	**167,015,249**	**51.37**	**86,791**	**82,392**	**169,183**	**1.3**	**18.6**

Source: Federal Highway Administration, Selected Highway Statistics, Table SS90-6, October 1991.

Passenger Car Energy Indicators, 1973 – 1990(a)

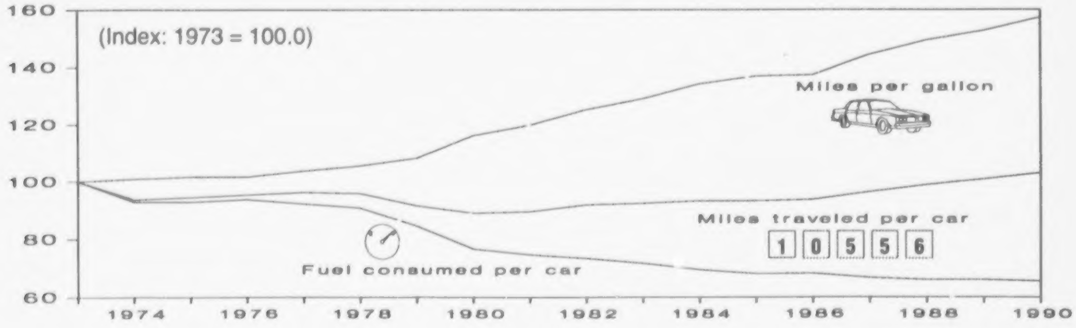
(1973 = 100.0)

	Passenger Cars Only						Passenger Cars and Motorcycles		
	Avg. Fuel Used per Car		Avg. Miles Traveled per Car		Avg. Miles per Gal. of Fuel		Number Registered	Gasoline Consumed	Miles Traveled
Year	Gal.	Index	Miles	Index	Miles	Index	(000)	(000,000 gal.)	(000,000)
1990(b)	505	65.5	10,556	102.9	20.92	157.3	147,809	72,626	1,524,942
1989(c)	509	66.0	10,332	100.7	20.31	152.7	147,460	72,956	1,488,140
1988	509	66.0	10,121	98.7	19.87	149.4	145,835	72,149	1,439,603
1987	514	71.9	9,878	98.2	19.20	136.5	142,125	70,763	1,364,836
1986	526	73.6	9,608	95.5	18.27	129.9	140,693	71,403	1,310,921
1985	525	73.4	9,560	95.0	18.20	129.4	137,308	69,450	1,269,651
1984	536	75.0	9,558	95.0	17.83	126.7	134,334	73,283	1,274,074
1983	553	77.3	9,475	94.2	17.14	121.8	131,723	73,156	1,229,697
1982	566	79.2	9,428	93.7	16.65	118.3	129,500	72,848	1,191,623
1981	576	80.6	9,186	91.3	15.94	113.3	129,123	71,718	1,124,843
1980	591	82.7	9,141	90.9	15.46	109.9	127,448	73,375	1,129,887
1979	653	91.3	9,403	93.5	14.41	102.4	125,750	80,233	1,162,528
1978	701	98.0	9,835	97.8	14.04	99.8	121,717	83,775	1,194,287
1977	716	100.1	9,879	98.2	13.80	98.1	118,711	80,677	1,141,166
1976	723	101.1	9,785	97.3	13.53	96.2	115,170	78,847	1,098,147
1975	716	100.1	9,690	96.3	13.52	96.1	111,679	76,457	1,050,472
1974	716	92.9	9,606	93.7	13.42	100.9	109,823*	74,217*	1,013,068*
1973	771	100.0	10,256	100.0	13.30	100.0	106,119*	78,011*	1,036,455*

(a) Data for this table were revised by the Federal Highway Administration in 1986, except where indicated by asterisk (*); (b) Preliminary; (c) Revised.

Source: Energy Information Administration, Monthly Energy Review, Figure 1.9, Table 1.10, March 1992; Federal Highway Administration, Selected Highway Statistics, Table SS90-17, October 1991.

Passenger Car Efficiency Index



Mileage and Fuel Consumption Data, 1990

	Personal Vehicles						
	Passenger Cars	Motorcycles	All Personal Passenger Vehicle	Buses	All Passenger Vehicles	Trucks & Combinations	All Motor Vehicles
Fuel Consumed (000,000 gal.)	72,435	191	72,626	901	73,527	58,056	131,583
Average per Vehicle (gal.)	505	45	491	1,436	495	1,305	682
Average Miles per Gal.	20.92	50.00	21.00	6.36	20.82	10.6	16.32
Vehicles Registered (000)	143,550	4,259	147,809	627	148,436	44,479	192,915
Average Miles Traveled per Vehicle	10,556	2,247	10,317	9,136	10,312	13,868	11,132
Average Total Miles Traveled (000,000):							
On Main Rural Roads	334,894	2,706	347,600	1,564	349,164	182,635	531,799
On Local Rural Roads	217,080	1,674	218,754	1,889	220,643	117,967	338,610
On Urban Streets	953,396	5,192	958,588	2,275	960,863	316,229	1,277,092
Total Travel in 1990	**1,515,370**	**9,572**	**1,524,942**	**5,728**	**1,530,670**	**616,831**	**2,147,092**
Total Travel in 1989	**1,477,769**	**10,371**	**1,488,140**	**5,659**	**1,439,799**	**602,657**	**2,096,456**

Source: Federal Highway Administration, Selected Highway Statistics, Table SS90-17, October 1991.

1990 Relationships by Population, Drivers

State	Resident Population (000)	Licensed Drivers per 1,000 Resident Population	Registered Motor Vehicles per 1,000 Resident Population	Vehicle Gal. of Fuel per Vehicle	Miles per Gal.	Annual Miles per Vehicle	Miles per Licensed Driver
Alabama	4,041	681	927	701	16.14	11,309	15,384
Alaska	550	571	868	670	12.45	8,336	12,660
Arizona	3,665	653	771	697	18.01	12,550	14,819
Arkansas	2,351	732	616	1,098	13.22	14,514	12,201
California	29,760	667	737	669	17.66	11,809	13,047
Colorado	3,294	620	958	538	16.02	8,613	13,303
Connecticut	3,287	674	798	567	17.68	10,028	11,880
Delaware	666	728	790	733	16.97	12,447	13,507
Dist. of Col.	606	680	432	719	18.09	13,007	8,263
Florida	12,938	714	846	610	16.48	10,046	11,916
Georgia	6,478	691	847	788	16.83	13,253	16,244
Hawaii	1,108	612	696	501	20.86	10,455	11,903
Idaho	1,007	699	1,046	563	16.61	9,349	13,966
Illinois	11,431	638	689	786	13.47	10,585	11,424
Indiana	5,544	650	787	760	16.19	12,300	14,910
Iowa	2,777	674	948	635	13.75	8,736	12,279
Kansas	2,478	692	812	743	15.29	11,354	13,327
Kentucky	3,685	652	790	780	14.82	11,562	14,007
Louisiana	4,220	610	710	723	17.39	12,578	14,625
Maine	1,228	722	795	706	17.22	12,155	13,383
Maryland	4,781	703	754	643	17.47	11,240	12,057
Massachusetts	6,016	703	619	697	17.77	12,381	10,907
Michigan	9,295	693	776	649	17.33	11,248	12,591
Minnesota	4,375	578	802	629	17.65	11,102	15,400
Mississippi	2,573	732	729	813	16.00	13,009	12,946
Missouri	5,117	721	763	840	15.52	13,031	13,797
Montana	800	755	979	684	15.54	10,639	13,804
Nebraska	1,578	690	877	694	14.54	10,066	12,821
Nevada	1,202	704	710	890	13.46	11,969	12,069
New Hampshire	1,109	761	853	577	18.05	10,409	11,671
New Jersey	7,730	722	731	654	15.94	10,424	10,551
New Mexico	1,515	709	859	768	16.15	12,410	15,038
New York	17,990	570	567	655	16.01	10,485	10,425
North Carolina	6,629	686	779	744	16.34	12,148	13,780
North Dakota	639	665	986	640	14.66	9,383	13,909
Ohio	10,847	685	775	665	15.56	10,341	11,710
Oklahoma	3,146	724	842	767	16.28	12,488	14,525
Oregon	2,842	778	860	677	16.16	10,934	12,090
Pennsylvania	11,882	665	671	682	15.76	10,752	10,850
Rhode Island	1,003	669	670	598	17.49	10,455	10,473
South Carolina	3,487	680	723	869	15.70	13,643	14,487
South Dakota	696	707	1,011	652	15.22	9,931	14,194
Tennessee	4,877	684	911	681	15.43	10,511	14,008
Texas	16,987	656	754	772	16.42	12,675	14,567
Utah	1,723	607	700	730	16.64	12,149	14,000
Vermont	563	732	820	695	18.18	12,642	14,173
Virginia	6,187	709	798	705	17.28	12,187	13,712
Washington	4,867	694	875	609	17.23	10,500	13,236
West Virginia	1,793	716	683	822	15.32	12,587	12,011
Wisconsin	4,892	680	751	668	18.05	12,058	13,305
Wyoming	454	735	1,164	869	12.71	11,039	17,488
Total	**245,709**	**672**	**759**	**697**	**16.32**	**11,383**	**12,858**

Source: Federal Highway Administration, Selected Highway Statistics, Table SS90-19, October 1991.

Gasoline and Motor Oil Brand Names

Gasoline	Motor Oil
Acme Petroleum Fuel Co.	
Shell (ur,up,usp)	
Citgo (ur,up,usp)	
Unocal (ur,up,usp)	
Coastal (ur,up,usp)	
World (ur,up,usp)	
Advanced Oil Co.	
Gas Stop	
Ada Resources	
Phillips (ur,up,usp)	Phillips
Conoco (ur,up,usp)	Amoco
Citgo (ur,up,usp)	Unocalc
	Mobil
	Conoco
Agway Petroleum Corp.	
Agway (ur,up,usp,d)	Agway
Power Champ (ur,up)	Agway Super Diesel
	Agway Diesel
	Agway Super Premium
	Agway Premium
	Agway Utility
Amoco Corp.	
Amoco (ur, u Silver, u Ultimate)	Amoco Premier II
	Heavy Duty
	Amoco 200
	Amoco 300
	Amoco 400
	Amoco 21C
	Amoco Turbo
	Amoco LDO SG
	Amoco Ultimate
	Amoco Ultimate Racing
Anchor Gasoline Corp.	
Canal (ur,up)	Sun
Bayou (ur,up)	
Arco	
Arco (r,rec-1,u,usp)	ARCO
	ARCO S3 Plus
	ARCO Graphite III
Arco Products Company	
Arco (r,ur,usp)	Arco
EC-1, EC-p	Arco Fleet 69 Plus
	Arco Supreme
	Arco Graphite III
Arkansas Valley Petroleum	
Phillips (ur,up,usp)	
Sunoco (ur,up,usp,ultra)	
Truman Arnold Cos.	
(unbranded)	Conoco
	Citgo
Ashland Oil, Inc.	
	Valvoline
Aztex Enterprises	
Citgo (ur,Advantage Performer)	Citgo
	Texaco
Texaco (ur,up,usp)	
Bagwell Oil Co., Inc.	
Unocal 76	Unocal 76
Chevron	Chevron
BP	BP
Bedford Valley Petroleum Corp.	
Amoco (ur,up)	Amoco
Chevron (ur,up)	Chevron
Texaco (up,sp)	Quaker State
	Kendall
	Mobil
	Pennzoil
	Texaco
Beneto, Inc.	
Exxon	
Best Oil Co.	
(Unbranded)	Quaker State
Bostick Brothers, Inc.	
Citgo (ur,up,usp)	Conoco
Texaco (ur,up,usp)	Texaco
BP America Inc.	
Sohio/Boron (ur,up,usp)	BP All Season
Gulf (ur,up,usp)	BP Premax
BP (ur,up,usp)	BP Nitrex Super Prem
	Vanellus-Commercial Vehicle
Bradley Petroleum Inc.	
Bradley (ur,up,usp)	Sinclair
Sav-O-Mat (ur,up,usp)	Pennzoil
Bray Terminals, Inc.	
Citgo (r,ur,p,up,sp,usp,o)	Chevron
	Citgo
	Castrol
Brennan Petroleum Co.	
Mobil (ur,up,usp)	Mobil
Browning Oil Co.	
Shell (RU 2000, SR 2000, SU 2000)	Shell
Rally (r,ur,up)	
Buhrmaster Energy Group	
Atlantic (ur,up,usp)	Atlantic
Coastal (ur,up,usp)	Wolf's Head - Magnum Oil
	Valvoline
Dennis K. Burke Inc.	
	Fleetline
	Citgo
	Texaco
	Shell
	Castrol
	Chevron
Bursaw Oil Corp.	
Mobil (ur,up,usp)	Mobil
Texaco (ur,up,usp)	Texaco
	Performance Plus
C.S.C. Oil Co.	
CSC (r, ur, up)	
Campbell Oil Co.	
Shell (r, ur, p)	Shell
	Unocal
	Sunoco
	Citgo
Cannon Oil Corp.	
Cannon (ur,up,usp, d)	Cannon 20W40
	Cannon ATF
	Cannon HD
	Cannon Regular
Cel Oil Products Corp.	
Unocal (ur,up,usp)	Unocal
CENEX	
Cenex (stay clean,ur, up,usp)	Golden D
	Super Lube 518
	Super Lube SL
	CENEX Hi-Tech.
	CENEX TC-502
Center Independent Oil Co.	
Citgo	
Getty	
Certified Oil Co.	
(ur,up,usp)	Certified
Champlain Oil Co.	
Citgo	Citgo
Gulf	Quaker State
Gulf	Gulf
	Castrol
	Mobil
	Texaco
Chapman Inc.	
Texaco (ur,p,up,sp,usp)	
Fina (ur,up,usp)	Havoline
	Fina
Charter Marketing Co.	
Charter (r,ur,up)	
Chevron Corp.	
Chevron (r,ur,up,usp)	Chevron Supreme
	Chevron ATF Type F
	Standard ATF Type F
	Chevron Dexron II(ATF)
	Chevron DELO Multi-grade Heavy Duty
Circle K Corp.	
Major Brands	
Aero (ur,up,usp)	
Citgo Petroleum Corp.	
Citgo (ur)	Citgard
The Performer	Citco Supergard
The Advantage	
Clark Oil & Refining Corp.	
(ur,extra,ap)	Clark H.D. 30
	Clark Premium 5W30
	Clark Premium 10W40
	Clark Premium 10W30
Coast Oil Co.	
Coast (ur,up,usp)	Coast All Grades
The Coastal Corp.	
Coastal Mart (ur,p,up,sp,usp,o)	Uni-Lube
The Coen Oil Co.	
Amoco	Union
Union	Mobil
Mobil	Citgo
Citgo	Quaker State
Pennzoil	Valvoline
	Kendall
Colonial Oil Industries, Inc.	
Enmark (no-lead,	Enmark
Sterling Plus	
Golden Premium	
Big Red	
Diesel	
Interstate (ur,up,usp)	
Comet Oil Co.	
Comet (up,ur,us)	Quaker State
Como Oil Co.	
Phillips 66 (ur,p,up)	Phillips
Conoco Inc.	
Conoco (r,ur,up,usp)	Tracon
	Fleet
	Super
	HP Naling
	HP Turbo
	HP Xtreem

KEY

Gasoline:

(r)	Regular
(ur)	Unleaded Regular
(p)	Premium
(up)	Unleaded Premium
(sp)	Super Premium
(usp)	Unleaded Super Premium
(d)	Diesel
(o)	Other

Motor Oils: Brand names are listed lowest-price grade first.

Gasoline	Motor Oil
Consumers Gasoline Stations, Inc.	
Scot (r,ur,up,o)	
Consumers (r,ur,up,o)	
Citgo (ur,up,usp)	
Convenient Petroleum Corp.	
Citgo (r,ur)	Citgo
Texaco (r,ur)	Texaco
Sunoco (r,ur)	Sunoco
Cook & Cooley, Inc.	
Texaco (r,ur,up)	Havoline
	Texaco
Crown Central Petroleum Corp.	
Crown (ur,up,usp,d)	Crown All-Season 10W40 & 10W30
	Crown Quality SAE 30
	Crown Dextron II ATF
Crystal Flash Petroleum	
Crystal Flash (ur,up,usp,d)	Citgo
S.S.C. Oil Co.	
CSC (ur,up,usp)	
Curtis Parker Oil Co., Inc.	
Conoco (ur,usp)	Fleet
	Super
	Tracon
	Par
Davis-Howland Oil Corp.	
	DSL XXX HD
	DSL Super Gard
	DSL Universal
	DSL Super Premium
K.E. David Ltd.	
Citgo (r,ur)	
DeBlois Oil Co.	
Texaco (ur,up,usp)	Texaco/Havoline
Citgo (ur,up,usp)	Sunoco
Sunoco (ur,up,usp)	Citgo
Diamond Shamrock Refining & Mfg. Co.	
Diamond Shamrock (ur,up,usp)	Triple Action
	Equa Flow
Dickey, Inc.	
	Conoco
	Texaco
Dixie Oil Co.	
Dixie	Dixie
Phillips	Coastal
Citgo	Kendall
	Pennzoil
	Quaker State
	Chevron
	Texaco
	Castrol
Drakes Refining Stations	
Unino 76 (r,ur,up)	Kendall
	Quaker State
	Pennzoil
D & W Oil Co.	
Marathon (ur,up,usp)	Citgo
Ashland (ur,up,usp)	
East Coast Oil Corp.	
East Coast (r,ur,up)	
Emro Marketing Co.	
(ur,up,usp)	Titan
Englefield Oil Co.	
Marathon (ur,up,usp)	Duke
Citgo (ur,up,usp)	Marathon
Duke Oil	Mobil
	Shell
	Valvoline
	Chevron
Este Oils Co.	
Mobil (ur,up)	Mobil
Este (ur)	Citgo
Exxon Company, U.S.A.	
Exxon (ur)	Superflo Supreme
Exxon Plus (up)	
Exxon Supreme (usp)	
Farm & Home Oil Co.	
Texaco (ur,up,usp,d)	Texaco
Amoco (ur,up,usp)	Amoco
Exxon (ur,up,usp)	Exxon
Farm Stores	
Unocal (ur,up,usp)	
Texaco (ur,up,usp)	
Farmland Industries	
Farmland (r,ur,up,o)	TMS Double Circle
Magnum XP	Premium Dual Season
(d) Ruby Premium	Irriflex
Fas-Stop, Inc.	
APCO (r,ur)	
Fina, Inc.	
Fina (ur,up,usp)	Fina:
	Ultra Supreme
	Kappa Universal Plus
	Universal Plus
Fleetman Inc.	
Fuelman (ur,up,d)	Oilman
F.O. Fletcher Oil, Inc.	
Veltex (r,ur)	
Price-Less (r,ur)	
Flying J Inc.	
Flying J (ur)	Conoco
Conoco (ur)	Shell
	Chevron
Fortmeyer Inc.	
Citgo (ur)	Citgo
Ashland	Pennzoil
Pennzoil (o)	
Foster Oil Co.	
Union 76 (ur,up,usp)	Unocal
Boron (ur)	Pennzoil
	Mobil
	Marathon
H.N. Funkhouser & Co.	
Texaco (r, ur)	Kendall
Exxon (r,ur,up)	Texaco Havoline
	Uniflow Perform. Plus
Gard Corp.	
	Gard
Gate Petroleum Co.	
Gate (ur,up,usp)	
Geldbach Petroleum Co., Inc.	
Mobil	Mobil
General Oil Co.	
Sinclair (ur,up)	
Getty Petroleum Corp.	
Getty (ur,up,usp)	Getty
Global Petroleum Corp.	
Citgo	
Mobil	
Texaco	
Amoco	
Conoco	
Global	
King	
Chevron	
Unocal 76	
Golden Gate Petroleum Co.	
BP (up,d)	Chevron
	Texaco
	Union
	Mobil
	Shell
Golub Corp.	
Gulf (ur,up)	Gulf
	Mobil
Gresham Petroleum Co.	
Amoco (ur,up,usp)	Amoco
Chevron (ur,up,usp)	Chevron
Gulf Oil	
Gulf (r, ur, usp)	Gulflube
	Super Duty
	Gulfpride
Gull Industries Inc.	
Gull (r, ur, up)	
Guttman Oil Co.	
Texaco (ur,up,usp)	Crossroads
Citgo (ur,up,usp)	Havoline
	Kendall
	Quaker State
	Pennzoil
	Mobile
	Exxon
Harris Oil Co.	
Arco	Shell
BP	BP
Hawaiian Independent Refinery Inc.	
Gas Express	Valvoline
Highway Oil, Inc.	
Regular unleaded	Workingman's Friend
Premium unleaded	
Diesel	
Angus I. Hines Inc.	
Sentry (r,ur,up,d)	Sentry
Shell	Shell
Texaco	Texaco
Citgo	Citgo
Horkey Oil Co., Inc. (dba Friends C-Stores)	
Shell (RU2000,SR2000, SU2000)II	Shell
Hough Petroleum	
Citgo (ur,up)	Gulf
Gulf (ur,up)	Citgo
Coastal (ur,up)	
Hub-Langle Fuel Corp.	
Hess	
United	
BP	
Ashland	
NOCC	
Hucks Convenience Stores	
Sure (ur,up,usp,o)	Sure
Hudson Farris Corp.	
APCO	Pennzoil
	Havoline
	Valvoline
	Phillips
	Quaker State
	Total
Hughes Energy Inc.	
Mobil (ur,up,usp)	Mobil
Hull Oil Co.	
Chevron (ur,up,usp)	Chevron
Hull (ur,up,usp)	
Hunt Refining Co.	
Parade (r,ur,up)	
Huntley Jiffy, Inc.	
Huntley-Jiffy	Huntley-Jiffy
Phillips	
Citgo	
J.D. Street & Co., Inc.	
Fina (r,ur,up,o)	High Performance
Sunoco (r,ur,up,o)	
Citgo (r,ur,up,o)	
Jacobus Petroleum Products Inc.	
Phillips (r,ur,up)	Phillips
Uno-Ven (r,ur,up)	Uno-Ven
Citgo (r,ur,up)	Citgo
Marathon (r,ur,up)	Marathon

Brand Names

Gasoline	Motor Oil
Jiffy Stop, Inc.	
Citgo	Citgo
Unocal	Unocal
Phillips	Phillips
Marathon	Marathon
	Rotella Shell
	Texaco
J&L Oil, Inc.	
J&L (ur,up,usp)	
Johnson Products, Inc.	
Citgo	Getty
Getty	Citgo
	Texaco
	Mobil
Kellett Oil Co.	
Texaco (ur,p,up,sp,usp)	GRC
Sinclair (ur,p,up,sp,usp)	Texaco
Phillips 66 (ur,p,up,sp,usp,o)	
Kelley Williamson Co.	
Mobil (ur,up)	Citgo
Phillips (ur,up)	Mobil
	Kendall
	Shell
	Quaker State
	Goodwrench
	Mopar
Kelso Oil Co., Inc.	
Pride (r,ur,up,usp)	Kendall
Phillips 66 (r,ur,up)	Quaker State
	Havoline
	Pennzoil
Kent Distributors, Inc.	
Diamond Shamrock	Shamrock
Kerr-McGee Refining Corp.	
Power Max (ur,up)	Valu Lube
Power Max Formula 4	Heavy Duty
	Blue Max
	Blue Velvet
Kickapoo Oil Co., Inc.	
Kickapoo (r,ur,p,up,d)	Kickapoo
	Pennzoil
Kimber Petroleum Corp.	
Amoco (ur,up,usp)	Amoco
Mobil (ur,up,usp)	Mobil
Kingston Oil Supply Corp.	
Mobil	Mobil
Getty	
Kirschner Bros. Oil Co.	
Chevron	
Getty	
Kunz Oil Co.	
Kolh	
Phillips	
Lake Shore Petrocorp	
Phillips 66 (r, ur)	Phillips Trop Artic
Marathon (r, ur)	Phillips All Season
Carlos R. Leffler	
(ur,up,usp)	Texaco
	Shell
	Chevron
	Mobil
	Gulf
	Aro
H. C. Lewis Oil Co.	
Exxon (r, ur, usp)	Exxon
Lewco (ur,up,usp)	Pennzoil
The Lyden Company	
Amoco (r,ur,usp,d)	Amoco
Marathon Petroleum Co.	
Mile Maker	V.E.P
Extra M	All Season
Super M	Multi-Power-3
	Endurance
	Marine-Terrain Master
Martin Oil Marketing, Ltd.	
Martin (r,ur,usp,o,d)	Martin All Season
	5W30
	10W30
	10W40
McLeleer Oil, Inc.	
Unocal 76	Unocal 76
Sunoco	Marathon
	Sunoco
Merchants Oil Inc.	
Sinclair (r,ur,p,up,sp,usp)	Sinclair
Sav-o-Mat	Shell
Merit Oil Corp.	
Merit (ur,up)	Merit Economy
	Merit 10W30
	Merit 10W40
	Merit ATF
Merritt Truax, Inc.	
Texaco(ur,usp)	Major Brands
Arco (ur,usp)	
Chevron (ur,usp)	
MFA Oil Co.	
MFA (ur,up,usp)	MFA Premiuml
	MFA Heavy Duty Special II
	MFA Super Heavy Duty
M.G.S. Oil, Petroleum & General Trading Corp.	
Marathon (ur,usp,d)	Marathon 20W50
	Marathon 15W40
	Marathon W20 & 30
	Arco W20 & 30
Mid-States Petroleum	
Unocal (ur,up,usp)	Unocal
Citgo (ur,up,usp)	Citgo
Midwest Petroleum Co.	
Fina (ur,up,us)	Fina
Shell (RU 2000, SR 2000 SU 2000)	Pennzoil
	Shell
	J.D. Street
Mid-Missouri Oil Co.	
Shell (ur,up,usp)	Shell
Citgo (r,ur,up,usp)	Citgo
Milder Oil Co., Inc.	
	Mystik
	Texaco
	Milderene
Miller & Holmes, Inc.	
M & H (ur,up,usp)	
Miller Enterprises, Inc.	
Unocal (r,ur,p,up,sp,usp,o)	
Phillips (r,ur,p,up,sp,usp,o)	
Miller Oil Co.	
Exxon (ur,up)	
Citgo (ur,up)	
Amoco (ur,up)	
Missouri Terminal Oil Co.	
Fina (r,ur,p,up,sp,usp,o,d)	Fina
Sun (ur,up,usp,o)	Shell
	Arco
	Mobil
	Sunoco
Mobil Oil Corp.	
Mobil Unleaded	Mobil Regular
Mobil Special	Mobil Heavy Duty
Mobil Super Unleaded +	Mobil Super XHP
	Mobil Super HP
	Mobil Delvac
	Mobil 1
Munro Petroleum & Terminal Corp.	
Shell	Shell
MP	MP
Mobil	
Murphy Oil USA, Inc.	
Spur (ur,up,usp,o)	
Musket Corp.	
Independent	Major Brands
National Convenience Stores, Inc.	
Stop N Go (ur,usp)	
Citgo (ur,up,usp)	
Phillips (ur,up,usp)	
National Oil & Gas Inc.	
Phillips (r,ur,p,up,sp,usp)	Marathon
Marathon (r,ur,p,up,sp,usp)	Phillips
Unocal 76 (ur,up,usp)	Unocal
BP Oil (ur,up,usp)	BP Oil
	Kendall
Neal, Inc.	
Fina (ur,up,usp,o)	Fina
Nella Oil Co.	
Exxon (r,ur,p,up,sp,usp,o)	Superflow Exxon
I-Stop (usp)	Pennzoil
Newell Oil Co. Inc.	
Chevron (ur,up,usp,o)	Chevron
NOCO Energy Corp.	
Noco (ur,up,usp,dSupr)	NOCO Premium Plus
BP (ur,up,ups)	Mobil
	BP
Northville Industries Corp.	
Northville (r,ur,up,usp,o)	Northville 10W30
Texaco (r,ur,up,usp,o)	Northville 10W40
Olympian Oil Co.	
Olympic (ur,up,usp)	Kendall
	Chevron
	Exxon
	Castrol
	Olympic
Parker Oil Co., Inc.	
Union 76	Union 76
Exxon	Exxon
Citgo	Citgo
Petrol	Texaco
Patterson Oil Co., Inc.	
Mobil	Mobil
Gulf	Gulf
Citgo	Citgo
Exxon	
Peavey Oil Co.	
Texaco (ur,up,d)	Texaco
	Havoline
Pennsylvania Petroleum Products Co.	
	Quaker City
	Brytol
	Stop Oil Treatment
Pennzoil	
Pennzoil (r,ur,up,sp)	Pennzoil
	Wolf's Head
Petroleum Sales & Service	Petro USA
	Chevron
	Emblem
	Mobil
	Quaker State
	Kendall
Petroleum Marketers, Inc.	
Shell	Shell
Exxon	Exxon
Citgo	Citgo
Petroleum Products Corp.	
Best (r,ur,up,usp,o)	Shell
	Exxon
	Mobil
	Sun
Petrotex Marketing Inc.	
Shell (r,ur,up)	Fina
	Quaker State
	Pennzoil
	Shell
	Chevron

Gasoline	Motor Oil
Phillips 66 Co.	
Phillips (r,ur,p,up,sp,usp)	Unique
	M M Motor Oil
	Super HD II
	Trop Artic
	HDS
	Trop Artic Turbo
	Trop Artic Propane
	Trop Artic Racing Oil
Piasa Motor Fuels, Inc.	
Unoven (r,ur,up,usp)	Conoco
Conoco (r,ur,up,usp)	Amoco
	Shell
	Kendall/Valvoline
Pilot Oil Corp.	
Pilot (r,ur,up)	Pilot
Pride Oil Co., Inc. (Miss.)	
Parade	
Phillips 66	
Prime Lube	
	Amoco
	Arco
Publix Oil Co., Inc.	
Publix (r, ur, p, up, sp, usp, o)	
Pyramid Oil Co.	
Pyramid	
Pyramid Thunder	
Mobil	
Quaker State Corp.	
	Quaker State Synquest
	Quaker State Super
	Quaker State DeLuxe
Quality Oil Co. Limited Partnership	
Quality Plus (ur,usp)	Quality Plus
Quarles Petroleum	
Quarles (r,ur,up,usp,d)	
Quiktrip Corp.	
Quiktrip (ur,up,usp)	XP
Redwood Oil Inc.	
Chevron	Chevron
BP	Mobil
Texaco	Shell
Beacon	Texaco
Redwood (ur,up,usp)	Valvoline
Castrol	
Red Hed Oil Co., Inc.	
Citgo (r,ur,up,usp)	Major Brands
Reinauer Petroleum Inc.	
Citgo (r,ur,p,up,usp,o)	Citgo
Reinhardt Oil Corp.	
Citgo	Citgo
Sun	Sunoco
Reynolds Industries, Inc.	
Port (ur,up,usp)	Port
River Oil Co.	
Phillips 66	Phillips 66
	Trop-Artic
Roach Oil Co.	
Texaco (ur,up,usp)	Havoline
	URSA
Robinson Oil Co., Inc.	
Rotten Robbie (ur,usp,)	
Ross Service Center	
(up)	Total
Royster Oil Co., Inc.	
BP (ur,up,usp)	Nitrex
	Vanellus
Russell Petroleum Corp.	
Texaco (ur,up,o)	All major brands
Kwik Shop	
Sahara Oil Co., Inc.	
Texaco (r,up,usp,d)	Havoline
Santa Fuel, Inc.	
Sunoco	Sunoco
Citgo	Citgo
Santee Oil Co., Inc.	
Shell (r,ur,usp)	Shell
Hess (ur,up,usp,o)	
Save-X USA, Inc.	
Citgo (ur,up,usp)	Citgo
	Warren
SCASCO	
Texaco (r,ur,p,up,sp,usp,o)	Texaco
Citgo	Citgo
Sears Oil Co. Inc.	
Sears (r,ur,p,up,sp,usp)	Sears Premium
	Sears Supreme
	TRI Pure
Shay Oil Co., Inc.	
Exxon (r,ur,p,up,sp,usp)	Exxon
	Super flow
	XD3
Shelby Petroleum Corp.	
Peer (r,ur,p,up,sp,usp)	Bonus Regular
Bonus (r,ur,p,up,sp,usp)	Sail Premium
	Peer Premium
	Peer Heavy Duty
	Peer Multi-Grade
Shell Oil Co.	
Shell (RU2000,SR2000, SU2000S, SU2000E)	Shell
	X-100
	Fire & Ice 2000
	Super 2000
	Shell Truck Guard
Shipley Oil Co.	
Exxon	Exxon
Amoco	
Shotmeyer Bros. Petroleum Corp.	
Mobil	Mobil
SICO Co.	
Amoco (ur,up,usp)	Citgo
Exxon (ur,up,usp)	Valvoline
	Amoco
	Pennzoil
Simon Oil Co. Inc.	
Sunoco (ur,up,usp)	
Mobil (ur,up,usp)	
Atlantic (ur,up,usp)	
Sinclair Oil Corp.	
(r,ur,up,usp)	Sinclair
R.L. Smeltz Oil Co., Inc.	
Amoco	Amoco
Pennzoil	Pennzoil
Quaker State	
SOS Oil Corp	
Citgo (r,ur,up)	Beaver Weargard
Coastal	
Southern Counties Oil Co.	
Arco (ur,up)	All major and independent
Mobil (ur,up)	
Ultramar (ur,up,usp)	
Southern Oil Co., Inc.	
Exxon	Exxon
Southern	
Southern States Co-op	
Southern States	Co-op
The Spencer Co., Inc.	
Amoco (ur,r,o)	Amoco
Citgo (ur,r,o)	Citgo
M. Spiegel & Sons Oil Cop.	
Coastal	Weargard
Citgo	
Star Enterprise	
Texaco Unleaded	
Texaco Unleaded Plus	
Texaco Super Unleaded	
Star Oil Co.	
Shell (r,ur,up)	Shell
Steuart Petroleum Co.	
Happy Store (ur,up,usp)	Agip
Agip (ur,up,usp)	Mobil
Save More (ur,up,usp)	Citgo
Stevens Oil Co.	
Chevron (r,p,up,sp,usp,d)	Special
	Custom
	HDMO Supreme
Sugar Creek Corp.	
Mobil (ur,up,o)	Mobil
Sunoco (ur,up,usp)	Shell
Citgo (ur,up,usp)	Sunoco
	Emblem
Sumrall Oil Services, Inc.	
Unocal 76	
Conoco	
Sun Refining and Marketing Co.	
Sunoco & Atlantic (r)	Sun Lube
Blending Pump & Atlantic Super C	PlusSunoco Ultra
Sunoco Super, Sunoco Ultra, Atlantic Super	Atlantic Super
Atlantic Optima	Atlantic Economu
Sunoco Economy	Atlantic Optima
Sunshine Jr. Stores, Inc.	
Jr. (r,ur,up,usp)	Rally
Citgo (r,ur,up,usp)	Citgo
	Texaco-Havoline
	Quaker State
TCR, Inc.	
TCR (r,ur,p)	TCR
Taylor Oil Co.	
Etna (ur,up,usp)	
Tesoro Petroleum Corp.	
Tesoro (ur,usp)	Mobil
	Shell
	Arco
	Conoco
	Quaker State
Texaco Inc.	
Texaco (r,ur,up,sp,o)	URSA Oil Extra Plus
	URSA Oil Super Plus
	URSA Oil Premium
	Havoline Formula3
	Havoline Superior
Texas Star Oil Co.	
Citgo	
Texaco	
Thornhill Oil Co.	
Amoco (ur,up,usp)	Amoco
	Quaker State
Thornton Oil Corp.	
Thornton (r,ur,up)	
Thrifty Oil Co.	
Thrifty (r,ur,up,usp)	Thrifty
Time Saver Stores Inc.	
	Golden State
	Quaker State
	Pennzoil
TOC Retail, Inc. dba Majik Market	
Majik Market	Majik Market
Citgo	Citgo
Amoco	Amoco
Texaco	Texaco

Brand Names

Gasoline	Motor Oil
Tooley Oil Co.	
Shell (r,ur,sp,usp,d)	Shell
BP	BP
Total Petroleum, Inc.	
Total (r,up)	Total Big Value
Vickers (ur,up)	Total Golden Supreme
APCO	Total All Season
Road Runner (r,ur,up)	Total Quartz
	Total GTS Quality
	Total S-3 Plus (Fleet)
Transit Oil Co.	
Transit (r,ur)	Transit
Travelers Petroleum, Inc.	
Texaco (ur,up,sp)	
Self Way (ur,p,up)	
Trenton Oil Co. Inc.	
Amoco (ur,up,usp)	Amoco
Triton Inc.	
Happy (ur,up,usp)	Happy
Phillips (ur,up,usp)	Phillips
Triton Fuel Group	
Texaco	Chevron
Phillips	Mobil
Conoco	Valvoline
Chevron	
Ultra Power Corp.	
Gulf (r,ur,p,up,sp,usp,o)	Arco
Ultramar	
Ultramar (ur,up,asupreme)	Beacon
Beacon (ur,us,usupreme)	
United Refining Co.	
Superkwik (ur,up,usp)	United
Unocal Corp.	
Unocal (ur,up,usp)	Unocal Custom
	Unocal Heavy Duty
	Unocal Premium
	Unocal Guardol
	Unocal Super 10W-30
	Unocal Super 10W-40
	Unocal 20W/50 High Performance
Vista Marketing Group Ltd.	
	Pennzoil
	Quaker State
Wake Up Oil Co.	
Wake Up (r,ur,usp)	Various
Warren Equities, Inc.	
Sunoco (ur,ultra)	Citgo
Citgo (ur,usp)	Sunoco
Mobil (ur,usp)	Mobil
Webster Oil Co.	
Phillips 66	Trop Artic
	Quaker
	Pennzoil
	Castrol
West Penn Oil Co., Inc.	
	Emblem Oil
Western Marketing, Inc.	
Conoco (r,ur,usp)	Delco
Shell (r,ur,usp)	Conoco Par
	Conoco Fleet
	Conoco Super
	Conoco Fleet Supreme
	Shell Rotella
	Aero Shell
A. T. Williams Oil Co.	
Wilco (r, ur, up, usp)	Wilco
Texaco	
Citgo	
J.H. Williams Oil Co., Inc.	
Unocal (r,ur,up)	Unocal High Performance Motor Oil
	Unocal Super Motor Oil
	Unocal Guardo Motor Oil
The Wills Group, Inc	
Texaco	Havoline
Exxon	Superflo
Amoco	Amoco
Citgo	
Wooten Oil Company	
Citgo	
Texaco	
Amoco	
Phillips	
World Oil Co.	
World (r,ur,up,usp)	
Shell	
Arco	
Texaco	
Wright Industries, Inc.	
Citgo (r,ur,up)	Citgo
	Texaco

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Capital Spending by Major Companies

Capital expenditures for the top 23 U.S. energy companies continued to increase in 1990, despite some unanticipated events—the Persian Gulf conflict, the onset of recession—that upset world oil markets during the latter half of the year.

According to the Energy Information Administration's (EIA) "Performance Profile of Major Energy Producers 1990," released earlier this year, capital outlays for the 23 "FRS" companies (EIA's shorthand for its mandated Financial Reporting System) totalled $45.5-billion in 1990, an increase of 1% over the previous year. However, setting aside the effect of cash allocated for mergers and acquisitions, capital investments in property, plant and equipment were up 18% for the year to the highest level since 1984.

Oil and gas production accounted for about half of the FRS companies' total 1990 capital investments, which were up 17% due to increased drilling, EIA says.

The EIA report underscores the growing importance of refining and marketing in major oil company investment agendas, particularly during the latter half of the 1980s. Worldwide expenditures for refining and marketing, again excluding mergers and acquisitions, increased by $2.5-billion, an impressive 38%, between 1989 and 1990. A large share of these expenditures went to upgrading refineries for the production of lighter products and the processing of heavier, more sulfurous crudes.

Domestic petroleum marketing capital expenditures for the 23 companies were $2.8-billion in 1990. Although there was little change in marketing investments from the levels of 1988 and 1989, EIA points out this investment pace is approximately twice the rate of expenditure for marketing during the first half of the decade. Due to lower prices and increased petroleum product demand, marketing has become an area of growth and profitable investment in recent years, EIA says.

Major Company Capital Expenditures, 1988 – 1990

(Billion Dollars)

Line of Business	1990	1989	1988	% Change 1989 vs. 1990	% Change Excluding Mergers and Acquisitions 1989 vs. 1990
Petroleum					
U.S. Petroleum					
Production	12.6	11.9	17.8	5.9	17.2
Refining/Marketing					
Refining	3.1	2.4	3.7	26.7	NA
Marketing	2.8	2.8	2.8	0.6	NA
Transport	0.3	0.3	0.3	0.0	NA
Total Refining/Marketing	**6.2**	**5.5**	**6.8**	**12.0**	**18.4**
Pipelines	1.1	0.7	0.7	58.3	64.7
Total U.S. Petroleum	**20.0**	**18.2**	**25.3**	**9.8**	**19.7**
Foreign Petroleum					
Production	10.1	12.4	10.3	(18.3)	0.6
Refining/Marketing	(3.0)	3.4	3.3	(11.3)	111.1
International Marine	0.2	0.2	0.2	(30.8)	(30.8)
Total Foreign Petroleum	**13.2**	**16.0**	**13.7**	**(17.0)**	**16.2**
Total Petroleum	**33.2**	**34.2**	**39.1**	**(2.7)**	**18.4**
Coal					
Total Coal	0.9	1.0	0.6	(10.7)	10.9
Other Energy					
Total Other Energy	0.2	0.2	0.4	0.0	—
Nonenergy					
Chemicals	7.8	6.3	7.2	23.7	23.7
Other Nonenergy	2.0	2.4	2.4	(19.0)	(15.1)
Total Nonenergy	**9.8**	**8.8**	**9.7**	**11.8**	**15.2**
Nontraceables	1.3	0.9	0.0	—	—
Additions to Investment in Place (a)	45.5	45.0	49.7	1.1	—
Additions Due to Mergers and Acquitions	3.8	9.7	15.8	(60.4)	—
Total Additions Excluding Mergers and Acquitions	41.7	35.3	33.8	17.9	—

(a) Measured as additions to PP&E plus additions to investments and advances.
NA = Not available. — = Not meaningful.
Note: Sum of components may not equal total due to independent rounding. Percent changes were calculated from unrounded data.
Source: *Energy Information Administration, Performance Profiles of Major Energy Producers 1990, Table 6.*

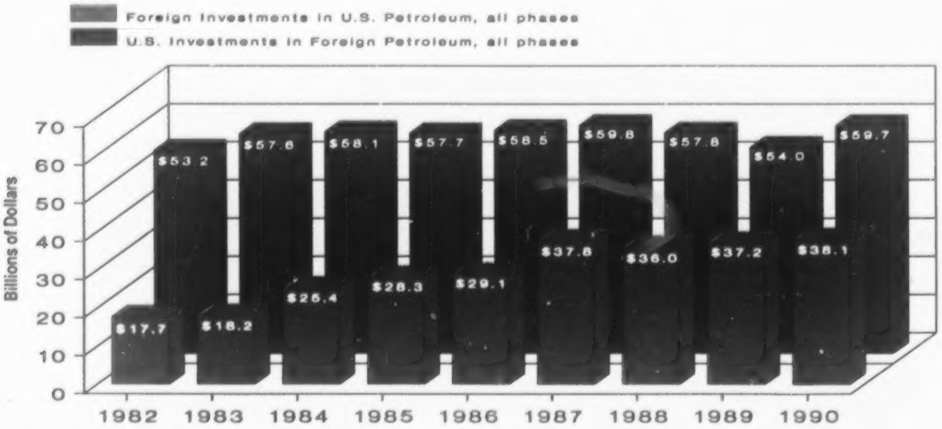
Foreign and U.S. Investments in Petroleum

It's perhaps too early to call it a trend, but direct investments by foreign companies in the U.S. petroleum industry (FDI) appear to have cooled down considerably after a notable surge in the mid and late 1980s. In fact, the percentage of foreign investments in this country's petroleum assets compared to the total FDI in the U.S. dropped to a shade over 9% in 1990, the lowest level in 16 years.

According to the Energy Information Administration's latest FDI study, additions to direct investments in petroleum abroad by U.S. companies in 1990 exceeded additions to FDI in the U.S. oil industry for the first time since 1982. U.S. investments in foreign oil were up almost $6-billion in 1990, the biggest jump in over 10 years. EIA notes that major oil companies invested almost 50% of their exploration and development capital in foreign locales in 1990, almost double the share they invested in the mid-1980s.

In recent years, foreign capital has been flowing mainly into the downstream sector of U.S. petroleum. The biggest FDI in 1990 involved the acquisition, for $675-million, by Petroleos de Venezuela (PDVSA) of the remaining 50% interest in Citgo Petroleum it did not already own.

The share of U.S. refining and marketing operations controlled by foreign affiliates continues to rise. The foreign share of domestic refining capacity, for example, increased to 28% in 1990. Foreign affiliates owned 40 refineries in 1990, one-fifth of the total for the United States. Gasoline sales of foreign-affiliated companies accounted for nearly one-third of the U.S. total, an increase of four percentage points over 1989.



Foreign Direct Investments in the U.S.

(Billions of Dollars)

Year	FDI in U.S. Petroleum	Total FDI in U.S.	% Petroleum of Total
1990	$38.0	$403.7	9.4%
1989 (a)	37.2	373.8	10.0
1988 (a)	36.0	314.8	11.4
1987 (a)	37.8	263.4	14.4
1986	29.1	220.4	13.2
1985	28.3	184.6	15.3
1984	25.4	164.6	15.4
1983	18.2	137.1	13.3
1982	17.7	124.7	14.2
1981	15.2	108.7	14.0
1980	12.2	83.0	14.7

U.S Direct Investments in Foreign Petroleum

(Billions of Dollars)

Year	U.S. Direct Investments in Foreign Oil	Total U.S. Investment Abroad	% Petroleum of Total
1990	$59.7	$421.5	14.2%
1989 (a)	54.0	370.1	14.6
1988 (a)	57.8	335.9	17.2
1987 (a)	59.8	314.3	19.0
1986	58.5	259.8	22.5
1985	57.7	230.2	25.1
1984	58.1	211.5	27.5
1983	57.6	207.2	27.8
1982	57.8	207.8	27.8
1981	53.2	228.3	23.3
1980	47.6	215.4	22.1

FDIs in Marketing, Refining and Production

	1990	1989 (a)	1988 (a)
Branded Retail Outlets			
FDI Companies	52,508	52,166	38,405
U.S. Total	210,120	111,657	112,000
% FDI of U.S. Total	25.0	46.7	34.3
Gasoline Supplied (000 bbl.)			
FDI Companies	2,282	2,084	7,673
U.S. Total	7,235	7,328	7,336
% FDI of U.S. Total	31.5	28.4	22.8
Refineries			
FDI Companies	40	37	36
U.S. Total	202	205	204
% FDI of U.S. Total	19.8	18.0	17.6
Crude Distillation Capacity (000 bbl.)			
FDI Companies	4,379	4,243	3,971
U.S. Total	15,676	15,572	15,655
% FDI of U.S. Total	27.9	27.2	25.4
Crude Oil and NGL Production (000 bbl.)			
FDI Companies	1,481	1,553	1,659
U.S. Total	8,994	9,219	9,818
% FDI of U.S. Total	16.5	16.8	16.9
Crude Oil and NGL Proved Reserves (000,000 bbl.)			
FDI Companies	6,294	6,438	6,436
U.S. Total	33,840	34,270	35,.63
% FDI of U.S. Total	18.6	18.8	18.4

(a) Revised.

Source (all tables): Energy Information Administration, "Profiles of Foreign Direct Investment in U.S. Energy 1990," Tables 1; 6-10, April 1992.

How Oil Companies Handle

	Branded Service Stations					
	How Supplied					Type of
Company	Total Branded Retail Outlets	Number of States Where Gasoline Brand Is Marketed (a)	Supplied Directly	Supplied Through Jobbers and Commissioned Agents	Leasee/ Dealer-Operated	Salary-Operated
Acme Petroleum Fuel Co.	125	2	117	8	49	68
Ada Resources	64	1	45	19	45	—
Advanced Oil Co.	15	1	—	15	—	15
Agway Petroleum Corp.	—	—	—	—	—	—
American Refining Group	8	2	8	—	—	5
Amoco Corp.	9,679	32	3,695	5,984	3,249	446
Anchor Gasoline Corp.	58	1	58	—	58	—
Arco	1,626	5	1,454	172	—	—
Arkansas Valley Petroleum	117	2	117	—	117	—
Truman Arnold Cos.	11	2	5	6	5	—
Asco Fuels, Inc.	2	1	2	—	—	—
Ashland Oil, Inc.	1,848	18	1,733	115	127	689
Aztex Enterprises	22	1	22	—	—	22
BP America, Inc.	7,499	33	2,298	5,201	1,157	893
Bagwell Oil Co., Inc.	27	2	12	—	—	—
E.M. Bailey	60	3	60	—	—	—
Bedford Valley Petroleum Corp.	42	3	42	—	36	6
Best Oil Co.	18	2	11	7	—	18
Bostick Brothers, Inc.	14	1	—	14	—	—
Bradley Petroleum, Inc.	60	3	60	—	17	43
Bray Terminals, Inc.	35	2	—	35	—	—
Brennan Petroleum Corp.	1	1	1	—	—	1
Broken Hill Prop./Pacific Resources	27	1	27	—	—	—
Browning Oil Co.	30	1	—	30	13	10
Buhrmaster Energy Group	5	1	5	—	5	—
Dennis K. Burke, Inc.	1	1	1	—	—	—
Bursaw Oil Corp.	46	2	46	—	2	—
By-Lo Oil Co.	17	1	17	—	—	17
Campbell Oil Co.	73	1	73	—	—	—
Cannon Oil Corp.	16	3	16	—	—	16
Cel Oil Products Corp.	8	1	—	—	—	—
Cenex	798	13	722	26	12	0
Center Independent Oil Co.	15	1	15	—	—	15
Certified Oil Co.	147	3	—	147	6	141
Champlain Oil Co.	115	4	—	—	—	—
Chapman, Inc.	72	3	72	—	42	10
Chevron Corp.	9,242(b)	32	3,074	6,168	8,566	676
Circle K Corp.	764	18	—	764	—	764
Citgo Petroleum Corp.	11,319	46	17	11,302	2	15
Clark Oil & Refining Corp.	887	12	887	—	11	876
Coast Oil Co.	72	1	72	—	43	29
The Coastal Corp.	962	34	632	330	51	—
The Coen Co.	100	1	100	—	97	3
Colonial Oil Industries, Inc.	57	3	57	—	—	—
Comet Oil Co.	3	2	—	3	—	—
Como Oil Co.	29	1	26	3	26	3
Conoco Inc.	4,612	36	—	—	—	—
Consumers Gasoline Stations, Inc.	64	4	64	—	—	64
Consumers Oil	41	2	—	—	—	—
Convenient Petroleum Corp.	—	—	—	—	—	—
Crown Central Petroleum Corp.	523	8	491	32	99	423
Crystal Flash Petroleum	21	1	25	—	—	25
C.S.C. Oil Co.	14	2	14	—	—	14
Curtis Parker Oil Co. Inc.	8	1	6	2	5	1
Dairy Mart Convenience Stores, Inc.	432	15	21	10	19	12
K.E. David, Ltd.	0	—	—	—	—	—
DeBlois Oil Co.	79	3	79	0	22	57
Diamond Shamrock, Inc.	1,918	8	763	1,155	0	763
Dickey, Inc.	3	1	3	—	—	—
Dixie Oil Co.	69	3	69	—	6	63
Drakes Refining Station, Inc.	10	1	10	—	—	—
East Coast Oil Corp.	44	1	44	—	—	44
Emro Marketing Co.	1,590	16	1,590	—	—	1,590
Englefield Oil Co.	85	2	85	—	—	76
Este Oils Co.	4	1	4	—	3	1
Exxon	10,876	39	3,728	7,148	3,211	517
Farm & Home Oil Co.	43	2	41	—	31	10
Farm Stores	10	1	—	10	—	—
Farm Industries	1,118	15	588	530	532	—
Fina, Inc.	2,919	25	142	2,877	3	138
Fleetman Inc., dba Fuelman	5	1	—	—	—	—
Flying J Inc.	93	25	60	33	—	60
Fortmeyer Inc.	2	1	2	—	—	—
H.N. Funkhouser & Co.	20	1	20	—	8	12
Gate Petroleum Co.	138	9	—	—	—	—
Getty Petroleum Corp.	2,038	12	1,294	—	1,122	21

(a) Includes District of Columbia.

(b) Excludes airport & marine outlets, new car dealerships & military exchanges.

Product Distribution — 1991

Branded Service Stations				Branded Jobbers/Commissioned Agents			
Operation	Gasoline Service			Number Selling...			
Commission-operated	Full-service only	Self-service only	Self-service Full-service	Total	Gasoline only	Fuel oil only	Gasoline/ Fuel oil
—	—	115	10	—	—	—	—
—	18	22	24	14	—	—	14
—	—	—	15	—	—	—	—
—	—	—	—	—	—	—	—
3	—	8	—	0	—	—	—
—	402	1,529	1,764	934	—	—	—
—	—	—	—	2	—	—	2
—	—	—	—	22	19	1(c)	2(d)
—	—	112	5	3	—	—	3
—	—	5	—	1	—	—	1
—	2	—	—	—	—	—	—
917	—	676	23	39	—	—	39
—	—	20	2	—	—	—	—
209	1,250	2,430	3,820	705	239	69	397
9	3	6	3	—	—	—	—
—	—	—	—	—	—	—	—
—	31	2	9	0	—	—	—
—	1	17	—	1	—	—	1
—	—	14	—	—	—	—	—
—	—	43	17	—	—	—	—
—	—	—	—	35	35	—	—
—	—	1	—	0	—	—	—
—	—	27	—	0	—	—	—
7	2	11	17	0	—	—	—
—	5	—	—	3	—	3	—
—	1	—	—	1	—	—	1
1	4	4	—	—	—	—	—
—	2	14	1	0	—	—	—
—	—	73	—	—	—	—	—
16	—	16	—	0	—	—	—
—	—	—	—	—	—	—	—
—	12	738	48	—	—	—	—
—	5	10	—	0	—	—	—
—	40	45	62	0	—	—	—
—	—	—	—	—	—	—	—
20	—	52	20	—	—	—	—
—	1,294	4,436	3,312	703	—	—	703
—	—	764	—	0	0	0	0
0	—	—	—	572	—	—	—
—	1	875	11	0	—	—	—
—	—	29	43	0	—	—	—
—	32	583	15	330	—	—	—
—	15	30	55	—	—	—	—
—	3	15	39	0	—	—	—
—	1	2	—	0	—	—	—
—	—	25	4	—	—	—	—
—	—	—	—	—	—	—	—
—	2	59	3	—	—	—	—
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
1	0	493	30	0	—	—	—
—	—	24	1	3	—	—	3
—	3	4	7	0	—	—	—
—	2	3	3	3	—	—	3
—	—	31	—	—	—	—	—
—	—	—	—	—	—	—	—
—	22	57	0	0	—	—	—
0	—	—	—	124	—	—	—
—	—	2	1	—	—	—	—
—	20	49	—	—	—	—	—
—	—	—	—	—	—	—	—
—	—	44	—	0	—	—	—
—	—	1,590	—	0	—	—	—
9	7	75	3	—	—	—	—
—	—	1	3	—	—	—	—
0	—	—	—	672	19	2	651
—	2	8	31	0	—	—	—
—	—	10	—	3	—	—	3
—	—	1,007	111	588	—	—	588
0	146	2,335	438	303	12	0	191
—	—	5	—	6	—	—	6
—	—	—	93	0	—	—	—
—	2	—	—	2	—	—	2
—	—	12	8	0	—	—	—
—	—	—	—	—	—	—	—
151	841	258	195	151	151	—	—

(c) Diesel only. (d) Gasoline only.

Bulk Plants				Terminals				
	Company-operated				Company-operated			
Total	Salary-operated	Commission-operated	Jobber-operated bulk plants	Total	Salary-operated	Commission-operated	Jobber-operated terminals	Company
1	1	—	1	1	1	—	1	Acme Petroleum Fuel Co.
3	2	1	10	—	—	—	—	Ada Resources
—	—	—	—	—	—	—	—	Advanced Oil Co.
—	—	—	—	—	—	—	—	Agway Petroleum Corp.
—	—	—	—	1	1	—	—	American Refining Group Inc.
—	—	—	—	86	86	—	—	Amoco Corp.
9	—	9	—	2	—	—	—	Anchor Gasoline Corp.
0	—	—	—	26	10	16(e)	—	Arco
0	—	—	3	0	—	—	0	Arkansas Valley Petroleum
4	1	1	2	4	4	—	0	Truman Arnold Cos.
3	3	—	—	2	2	—	—	Asco Fuel Inc.
126	—	126	—	30	—	—	0	Ashland Oil Inc.
—	—	—	—	—	—	—	—	Aztex Enterprises
66	—	66	250	52	52	—	2	BP America, Inc.
2	2	—	—	1	1	—	—	Bagwell Oil Co., Inc.
2	—	2	—	—	—	—	—	E.M. Bailey
0	—	—	—	0	—	—	0	Bedford Valley Petroleum Corp.
0	—	—	—	0	—	—	0	Best Oil Co.
2	—	—	—	1	1	—	—	Bostick Brothers, Inc.
—	—	—	—	—	—	—	—	Bradley Petroleum, Inc.
—	—	—	—	3	3	—	0	Bray Terminals, Inc.
0	—	—	0	0	—	—	0	Brennan Petroleum Corp.
0	—	—	—	0	—	—	—	Broken Hill Prop. Pacific Resources
1	1	—	0	0	—	—	—	Browning Oil Co.
5	—	—	1	—	—	—	—	Buhrmaster Energy Group
1	1	—	—	—	—	—	—	Dennis K. Burke, Inc.
—	—	—	—	—	—	—	—	Bursaw Oil Corp.
1	—	—	—	0	—	—	—	By-Lo Oil Co.
3	3	—	—	—	—	—	—	Campbell Oil Co.
0	—	—	—	0	—	—	0	Cannon Oil Corp.
1	1	—	—	0	—	—	0	Cel Oil Products Corp.
—	—	—	833	—	6	1	—	Cenex
1	1	—	0	1	1	—	0	Center Independent Oil Co.
0	—	—	—	1	1	—	0	Certified Oil Co.
—	—	—	—	—	—	—	—	Champlain Oil Co.
4	4	—	4	0	—	—	0	Chapman, Inc.
868	0	0	868	118	87	1	30	Chevron Corp.
0	0	0	0	0	0	0	0	Circle K Corp.
0	—	—	N/A	50	50	—	N/A	Citgo Petroleum Corp.
0	—	—	0	14	14	0	0	Clark Oil & Refining Corp.
1	1	0	—	0	—	—	0	Coast Oil Co.
—	—	—	—	240	—	—	—	The Coastal Corp.
1	1	—	—	—	—	—	—	The Coen Co.
1	1	—	—	2	2	—	—	Colonial Oil Industries Inc.
0	—	—	0	0	—	—	0	Comet Oil Co.
—	—	—	—	—	—	—	—	Como Oil Co.
—	—	—	—	—	—	—	—	Conoco Inc.
—	—	—	—	—	—	—	—	Consumers Gasoline Stations, Inc.
—	—	—	—	—	—	—	—	Consumers Oil
—	—	—	—	—	—	—	—	Convenient Petroleum Corp.
0	—	—	—	10	10	—	0	Crown Central Petroleum Corp.
4	1	3	0	0	—	—	—	Crystal Flash Petroleum
0	—	—	0	0	—	—	0	C.S.C. Oil Co.
3	1	2	1	0	—	—	0	Curtis Parker Oil Co., Inc.
0	—	—	—	0	—	0	0	Dairy Mart Convenience Stores
2	2	—	—	—	—	—		K.E. David, Ltd.
3	3	0	—	1	1	—	—	DeBlois Oil Co.
0	—	—	—	14	14	0	—	Diamond Shamrock, Inc
2	2	—	—	0	—	—	0	Dickey, Inc.
—	—	—	—	—	—	—	—	Dixie Oil Co.
—	—	—	—	—	—	—	—	Drakes Refining Station, Inc.
0	—	—	0	0	—	—	0	East Coast Oil Corp.
0	—	—	—	—	0	—	—	Emro Marketing Co.
8	8	—	—	—	—	—	—	Englefield Oil Co.
—	—	—	0	1	1	—	—	Este Oils Co.
0	—	—	0	47	47	0	—	Exxon
3	3	—	—	1	1	—	—	Farm & Home Oil Co.
0	—	—	—	0	—	—	—	Farm Stores
—	—	—	—	—	—	—	0	Farmland Industries
0	—	—	151	6	6	0	1	Fina, Inc.
—	—	—	—	0	—	—	—	Fleetman, Inc. dba Fuelman
—	—	—	—	—	—	—	—	Flying J Inc.
3	—	2	1	—	—	—	—	Fortmeyer, Inc
3	—	—	—	0	—	—	0	H.N. Funkhouser & Co.
—	—	—	—	—	—	—	—	Gate Petroleum Co.
0	—	—	—	34	27	—	—	Getty Petroleum Corp.

(e) Other.

How Oil Companies Handle

	Branded Service Stations					
	How Supplied					Type of
Company	Total Branded Retail Outlets	Number of States Where Gasoline Brand Is Marketed (a)	Supplied Directly	Supplied Through Jobbers and Commissioned Agents	Lessee/ Dealer-Operated	Salary-Operated
Giant Industries, Inc.	44	3	—	—	—	—
Global Petroleum Corp.	144	10	144	0	9	31
Golub Corp.	12	2	12	—	—	12
Gresham Petroleum Co.	35	1	35	—	12	23
Guttman Oil Co.	72	3	36	36	36	—
Harris Oil Co.	34	1	34	—	14	4
Hawaiian Independent Refinery	28	1	28	—	—	28
Highway Oil, Inc.	174	22	174	—	—	174
Angus I. Hines, Inc.	62	3	62	—	1	1
Barney Holland Oil Co.	75	1	75	—	75	—
Horkey Oil Co., Inc.	35	1	35	—	10	25
Hough Petroleum	51	2	51	—	42	—
Huck's Convenience Stores	101	5	95	6	—	—
Hudson Oil Co.	11	2	11	—	—	11
Hull Oil Co.	24	1	15	9	—	7
Hunt Refining Co.	—	—	—	—	—	—
Jacobus Petroleum Products, Inc.	42	1	—	—	33	9
J.D. Streett & Co. Inc.	—	—	—	—	—	—
J&L Oil Inc.	54	3	54	—	2	52
Johnson Products, Inc.	—	—	—	—	—	—
JS&J Service, Inc.	3	2	3	—	—	—
Kelley Williamson Co.	—	—	—	—	—	—
Kelso Oil Co., Inc. dba Pride Oil	12	1	12	—	10	2
Kent Distributors, Inc.	23	1	22	1	—	23
Kerr-McGee Refining Corp.	1,313	13	80	1,233	22	58
Kimber Petroleum Corp.	75	1	75	—	55	20
Kocolene Oil Corp.	73	4	73	—	—	73
Krause Gentle Corp.	91	2	91	—	—	91
Kwik Shop Inc.	208	5	—	—	—	—
Lakeside Oil Co. Inc.	130	1	—	—	—	—
Carlos R. Leffler	210	1	120	—	60	60
H.C. Lewis Oil Co.	27	1	27	—	18	6
Lyden Co.	100	1	100	—	45	55
Manassas Ice & Fuel Co., Inc.	—	—	—	—	—	—
Marathon Oil Co.	2,106	9	498	1,608	498	—
Martin Oil Marketing, Ltd.	43	2	43	—	—	43
Mauger & Co.	—	—	—	—	—	—
McLeieer Oil, Inc.	40	1	—	40	—	—
Merchants Oil, Inc.	—	—	—	—	—	—
Merritt Truax Inc.	33	1	7	26	—	—
MFA Oil Co.	250	1	250	—	184	66
Mid-Missouri Oil Co.	13	1	—	—	7	6
Mid-States Petroleum	129	3	121	8	78	38
Midwest Petroleum Co.	102	2	102	—	45	57
Miller Enterprises Inc.	121	1	112	9	—	—
Miller Oil Co.	85	2	85	—	27	34
Mini-Mart Inc.	107	6	81	26	—	85
Missouri Terminal Oil Co.	14	1	14	0	9	0
Mobil Oil Co.	9,068	34	4,292	4,776	2,493	761
Moto, Inc. (FKG Oil Co.)	—	—	—	—	—	—
Munroe Petroleum Terminal Corp.	27	1	—	—	—	—
Murphy Oil USA, Inc.	623	14	—	—	—	—
National Convenience Stores, Inc.	—	—	—	—	—	—
National Oil & Gas Inc.	90	2	90	—	90	—
Neal, Inc.	25	1	25	—	—	—
Nella Oil Co.	25	1	25	—	—	25
Newell Oil Co., Inc.	11	1	11	—	6	0
NOCO Energy Corp.	33	1	33	—	—	33
Northville Industries Corp.	105	2	105	—	94	11
Pal Oil Company Inc.	64	1	64	—	—	9
Parker Oil Co. Inc.	75	3	75	—	75	—
Patterson Oil Co., Inc.	32	1	32	—	16	16
Peavey Oil Co.	9	1	—	—	—	—
Pennzoil Products Co.	393	8	—	—	—	—
Petro USA (Petroleum Sales & Service)	40	1	—	—	—	—
Petroleum Marketers, Inc.	142	3	142	—	90	52
Petroleum Products Corp.	61	4	6	55	—	—
Phillips 66 Co.	7,474	29	—	—	—	—
Piasa Motor Fuels Inc.	18	2	18	—	13	5
Pilot Corp.	90	24	90	—	—	90
Pride Oil Co. Inc. (Miss.)	14	2	14	—	—	—
Private Brand Services, Inc.	1	1	1	—	1	—
Pyramid Oil Co.	30	1	27	3	26	1
Quality Oil Co.	115	1	115	—	75	40
Quarles Petroleum	50	3	50	—	—	—
Quicktrip Corp.	293	6	293	—	—	293

Product Distribution (Cont.)

Branded Service Stations				Branded Jobbers/Commissioned Agents			
Operation	Gasoline Service			Number Selling...			
Commission-operated	Full-service only	Self-service only	Self-service Full-service	Total	Gasoline only	Fuel oil only	Gasoline/ Fuel oil
—	—	—	—	—	—	—	—
8	—	—	—	0	—	—	—
—	—	2	10	—	—	—	—
—	10	25	—	0	—	—	—
—	20	14	2	60	—	—	60
16	17	—	—	—	—	—	—
—	—	28	—	16	16	—	—
—	80	17	77	0	—	—	—
11	4	58	—	0	—	—	—
—	—	—	—	1	1	—	—
—	—	32	3	—	—	—	—
9	51	—	—	0	—	—	—
—	—	101	—	4	4	—	—
—	—	3	8	—	—	—	—
8	—	23	1	1	—	—	1
—	—	—	—	—	—	—	—
—	—	32	10	5	—	2	3
—	—	—	—	—	—	—	—
—	1	53	—	0	—	—	—
—	—	—	—	—	—	—	—
—	—	—	3	—	—	—	—
—	—	—	—	—	—	—	—
—	11	—	1	0	—	—	—
—	—	23	—	—	—	—	—
—	79	788	446	366	10	14	342
—	75	—	—	0	—	—	—
—	—	5	68	0	—	—	—
—	2	89	0	0	—	—	—
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
—	20	95	—	—	—	—	—
3	—	12	15	0	—	—	—
—	—	55	45	—	—	—	—
—	—	—	—	—	—	—	—
—	210	316	1,580	264	—	—	264
—	—	43	—	—	—	—	—
—	—	—	—	—	—	—	—
—	—	36	4	2	—	—	2
—	—	—	—	—	—	—	—
7	33	—	—	—	—	—	—
—	120	130	—	7	—	—	—
—	—	12	1	—	—	—	—
5	46	44	38	7	—	1	6
—	—	62	40	0	—	—	—
—	—	121	—	—	—	—	—
—	—	—	—	—	—	—	—
22	—	107	—	0	—	—	—
5	1	10	3	3	0	0	3
—	—	—	—	1,090	0	677	413
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
—	—	80	10	15	—	—	15
—	—	—	—	—	—	—	—
—	—	25	—	16	—	—	16
5	0	8	3	5	5	0	0
—	9	24	—	6	—	—	6
—	42	13	50	0	—	—	—
5	15	37	12	1	—	—	1
—	—	70	5	—	—	—	—
0	6	12	14	0	—	—	—
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
—	—	—	—	10	—	—	—
—	—	142	—	—	—	—	—
—	—	56	5	11	—	—	11
—	—	—	—	1,063	—	—	—
—	—	9	9	3	—	—	3
—	—	90	—	0	—	—	—
14	—	13	1	—	—	—	—
—	—	1	—	0	—	—	—
—	27	—	—	—	—	—	—
—	45	—	—	0	—	—	—
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—

Bulk Plants				Terminals				
	Company-operated				Company-operated			
Total	Salary-operated	Commission-operated	Jobber-operated Bulk plants	Total	Salary-operated	Commission-operated	Jobber operated Terminals	Company
—	—	—	—	—	—	—	—	Giant Industries, Inc.
—	—	—	—	0	—	—	0	Global Petroleum Corp.
—	—	—	1	—	—	—	1	Golub Corp.
4	4	—	—	—	—	—	—	Gresham Petroleum Co.
2	—	—	0	4	—	—	0	Guttman Oil Co.
—	—	—	—	—	—	—	—	Harris Oil Co.
—	—	—	—	4	4	0	0	Hawaiian Independent Refinery
0	—	—	0	0	—	—	0	Highway Oil, Inc.
4	—	—	0	0	—	—	0	Argus I. Hines, Inc.
2	—	—	—	—	—	—	—	Barney Holland Oil Co.
2	2	—	—	0	—	—	0	Horkey Oil Co., Inc.
1	1	—	0	0	—	—	0	Hough Petroleum
—	—	—	—	—	—	—	—	Huck's Convenience Stores
—	—	—	—	—	—	—	—	Hudson Oil Co.
0	—	—	1	0	—	—	0	Hull Oil Co.
—	—	—	—	—	—	—	—	Hunt Refining Co.
—	—	—	—	2	2	—	—	Jacobus Petroleum Products, Inc.
—	—	—	—	—	—	—	—	J.D. Strteet & Co., Inc.
0	—	—	—	0	—	—	—	J&L Oil Inc.
—	—	—	—	—	—	—	—	Johnson Products, Inc.
—	—	—	—	—	—	—	—	JS&J Service, Inc.
—	—	—	—	—	—	—	—	Kelley Williamson Co.
0	—	—	—	0	—	—	—	Kelso Oil Co. Inc. dba Pride Oil
—	—	—	—	—	—	—	—	Kent Distributors, Inc.
129	—	—	129	1	—	—	1	Kerr-McGee Refining Corp.
0	—	—	0	0	—	—	0	Kimber Petroleum Corp.
0	—	—	—	0	—	—	0	Kocolene Oil Corp.
0	—	—	—	0	—	—	—	Krause Gentle Corp.
—	—	—	—	—	—	—	—	Kwik Shop
—	—	—	—	—	—	—	—	Lakeside Oil Co., Inc.
3	3	—	3	3	3	—	3	Carlos R. Leffler
1	1	—	0	—	—	0	0	H.C. Lewis Oil Co.
—	—	—	—	0	—	—	0	Lyden Co.
3	2	—	1	—	—	—	—	Manassas Ice & Fuel Co., Inc.
312	—	—	312	—	—	—	—	Marathon Oil Co.
—	—	—	—	2	1	1	—	Martin Oil Marketing, Ltd.
—	—	—	—	—	—	—	—	Mauger & Co.
3	3	—	1	0	—	—	0	McLeieer Oil , Inc.
—	—	—	—	—	—	—	—	Merchants Oil, Inc.
1	—	1	—	—	—	—	—	Merritt Traux, Inc.
120	—	—	7	0	—	—	0	MFA Oil Co.
0	—	—	0	—	—	—	—	Mid-Missouri Oil Co.
11	7	—	4	1	—	1	0	Mid-States Petroleum
0	—	—	—	0	—	—	0	Midwest Petroleum Co.
—	—	—	—	—	—	—	—	Miller Enterprises Inc.
3	3	—	—	1	1	—	—	Miller Oil Co.
0	—	—	0	0	—	—	0	Mini-Mart Inc.
0	0	0	5	1	1	0	0	Missouri Terminal Oil Co.
0	0	0	0	107	57	0	0	Mobil Oil Co.
—	—	—	—	—	—	—	—	Moto, Inc. (FKG Oil Co.)
1	1	—	—	1	1	—	—	Munro Petroleum Terminal Corp.
—	—	—	—	—	—	—	—	Murphy Oil USA, Inc.
—	—	—	—	—	—	—	—	National Convenience Stores, Inc.
10	—	10	—	0	—	—	—	National Oil & Gas Inc.
—	—	—	—	—	—	—	—	Neal, Inc.
0	—	—	0	0	—	—	0	Nella Oil Co.
1	1	—	—	—	—	—	—	Newell Oil Co., Inc.
1	1	—	6	1	1	—	0	NOCO Energy Corp.
0	—	—	0	4	4	—	0	Northville Industries Corp.
2	2	—	2	1	1	—	2	Pal Oil Company Inc.
9	9	—	—	1	1	0		Parker Oil Co., Inc.
1	—	—	—	0	—	—	0	Patterson Oil Co., Inc.
1	1	—	1	—	—	—	—	Peavey Oil Co.
—	—	—	—	—	—	—	—	Pennzoil Products Co.
—	—	—	—	—	—	—	—	Petro USA (Petroleum Sales & Service)
7	7	—	—	0	—	—	—	Petroleum Marketers, Inc.
8	8	—	6	5	5	—	0	Petroleum Products Corp.
—	—	—	—	—	—	—	—	Phillips 66 Co.
2	1	1	2	1	1	—	—	Piasa Motor Fuels, Inc.
0	—	—	—	0	—	—	—	Pilot Corp.
0	—	—	—	0	—	—	—	Pride Oil Co. Inc. (Miss.)
0	—	—	—	0	—	—	—	Private Brand Services, Inc.
—	—	—	—	—	—	—	—	Pyramid Oil Co.
3	3	—	—	—	—	—	—	Quality Oil Co.
7	—	—	—	2	—	—	—	Quarles Petroleum
—	—	—	—	—	—	—	—	Quicktrip Corp.

How Oil Companies Handle

	Branded Service Stations					
	How Supplied					Type of
Company	Total Branded Retail Outlets	Number of States Where Gasoline Brand Is Marketed (a)	Supplied Directly	Supplied Through Jobbers and Commissioned Agents	Leasee/ Dealer-Operated	Salary-Operated
Red Hed Oil Co., Inc.	35	1	35	—	9	9
Redwood Oil Co. Inc.	85	1	85	—	70	15
Reinauer Petroleum Co.	7	1	7	—	7	—
Reinhardt Corp.	8	1	8	—	6	2
Reynold Industries, Inc.	—	—	—	—	—	—
Rich Oil, Inc.	91	3	91	—	—	91
River Oil Co.	38	2	33	5	29	4
Roach Oil Co.	11	2	11	—	5	6
Robinson Oil Co., Inc.	23	1	23	—	—	23
Ross Service Center	1	1	—	1	—	—
Royster Oil Co. Inc.	24	1	—	24	—	—
Russell Petroleum Corp.	36	1	36	—	9	17
Sahara Oil Co., Inc.	25	1	25	—	9	9
Santa Fuel, Inc.	56	3	56	—	50	6
Santee Oil Co. Inc.	9	1	9	—	5	4
Save-X USA, Inc.	10	1	10	—	—	10
SCASCO	32	1	32	—	17	5
Schaeffer Oil, Inc.	—	—	—	—	—	—
Sears Oil Co., Inc.	9	1	—	—	—	—
Shay Oil Co., Inc.	18	1	18	—	1	17
Shelby Petroleum Corp.	20	2	20	—	—	—
Shell Oil Co.	8,975	41	4,243	4,732	4,033	210
Shipley Oil Co.	30	1	30	—	4	24
Shotmeyer Bros. Petroleum Corp.	64	1	64	—	41	—
The SICO Co.	131	3	131	—	42	29
Simon Oil Co. Inc.	100	1	100	—	—	—
Sinclair Oil Corp.	2,490	21	300	2,190	50	260
R.L. Smeltz Oil Co., Inc.	19	1	19	—	—	—
SOS Oil Corp.	50	1	50	—	50	—
Southern Countries Oil Co.	5	1	5	—	—	5
Southern Oil Co., Inc.	10	1	—	10	—	—
The Spencer Cos	56	1	56	—	14	14
M. Spiegel & Sons Oil Corp.	50	1	50	—	50	—
SSG Corp.	32	2	—	—	—	—
Star Enterprise	8,653	25	2,045	6,608	763	661
The Star Oil Co.	22	1	22	—	22	—
Steuart Petroleum Co.	67	6	67	—	—	67
Stevens Oil Co.	37	2	—	37	37	—
Sugarcreek Corp.	280	2	280	—	143	105
Sumrall Oil Services, Inc.	20	1	—	20	—	—
Sun Company, Inc.	5,854	27	2,647	3,207	2,195	452
Sunshine Jr. Stores, Inc.	—	—	—	—	—	—
Taylor Oil Co.	62	2	62	—	—	—
Tesoro Petroleum	100	1	42	58	10	32
Texaco Inc.	4,934(f)	24	1,280	3,654	708	481
Texas Star Oil Co.	15	1	15	—	—	—
Thornhill Oil Co. Inc.	29	1	8	21	—	8
Thrifty Oil Co.	250	1	—	—	—	—
Time Saver Store	23	1	—	23	—	—
TOC Retail, Inc. dba Majik Market	306	10	306	—	—	306
Tooley Oil Co.	6	1	6	—	—	6
Tosco Corp.	0	—	—	—	—	—
Total Petroleum, Inc.	2,776	22	647	2,129	0	635
Town Pump Inc. & Affiliates	62	1	—	—	—	—
Transit Oil Co.	—	—	—	—	—	—
Travelers Petroleum, Inc.	16	1	16	—	—	16
Trenton Oil Co.	30	1	30	—	15	—
Triton Inc.	29	3	29	—	3	26
Triton Fuel Group	—	—	—	—	—	—
Ultramar	400	1	350	50	20	180
Ultra Power Corp.	6	1	6	—	2	—
Uni-Marts, Inc.	475	6	—	—	—	—
United Refining Co.	403	3	341	62	—	341
Unocal Corp.	1,931(g)	7	672	1,259	645	27
V-1 Oil Co.	36	6	36	—	4	32
Vista Marketing Group Ltd.	17	4	17	—	—	16
Waco Oil Co., Inc.	15	2	—	—	—	—
Wake Up Oil Co., Inc.	37	1	37	—	1	36
Warren Equities, Inc.	258	8	258	—	60	198
Webster Oil Co.	3	1	3	—	—	—
Wesson Inc.	40	1	40	—	25	12
A.T. Williams Oil Co.	104	2	—	16	—	—
J.H. Williams Oil Co., Inc.	83(h)	1	83	0	77	6
The Wills Group, Inc.	104	4	95	—	30	55
Wooten Oil Co.	54	3	54	—	—	23
Wright Industries, Inc.	4	1	4	—	4	—

(f) Does not include Star Enterprise. (g) Unocal Western Marketing only–does not includes UNO-VEN or Southeast Marketing. (h) Includes marinas.

Product Distribution (Cont.)

Branded Service Stations				Branded Jobbers/Commissioned Agents			
Operation	Gasoline Service				Number Selling...		
Commission-operated	Full-service only	Self-service only	Self-service Full-service	Total	Gasoline only	Fuel oil only	Gasoline/Fuel oil
17	3	29	3	0	—	—	—
0	0	30	55	3	—	—	3
—	7	—	—	0	—	—	—
—	3	5	—	—	—	—	—
—	—	—	—	—	—	—	—
—	9	—	82	—	—	—	—
—	—	14	19	1	—	—	—
—	2	1	8	0	—	—	—
—	—	23	—	0	—	—	—
—	—	—	1	—	—	—	—
—	4	14	6	—	—	—	—
10	—	36	—	—	—	—	—
7	2	20	3	2	—	—	2
—	—	—	56	—	—	—	—
—	—	6	3	—	—	—	—
—	—	10	—	—	—	—	—
10	14	16	2	2	—	2	—
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
—	—	18	—	—	—	—	—
—	20	—	—	—	—	—	—
0	293(i)	1,969(i)	1,981(i)	370	—	—	—
2	—	30	—	—	—	—	—
23	64	—	—	0	—	—	—
60	34	97	—	0	—	—	—
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
—	15	10	25	0	—	—	—
—	—	5	—	0	—	—	—
—	3	6	1	—	—	—	—
28	7	45	4	2	2	—	—
—	15	10	25	—	—	—	—
—	—	—	—	—	—	—	—
0	394	4,764	3,495	492	242	1	249
—	—	11	11	0	—	—	—
—	—	67	—	0	—	—	—
—	—	10	27	0	—	—	—
32	10	170	100	2	—	—	2
—	—	20	—	—	—	—	—
—	—	—	—	3,207	—	—	—
—	—	—	—	—	—	—	—
62	—	62	—	62	62	—	—
0	20	40	40	13	0	0	13
91	451	2,754	1,729	373	—	—	373
—	—	—	—	0	—	—	—
—	1	25	3	—	—	—	—
—	—	—	—	—	—	—	—
—	—	23	—	—	—	—	—
—	—	306	—	—	301	—	5
—	—	6	—	—	—	—	—
—	—	—	—	—	—	—	—
12	2,576	200	427	—	—	427	—
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
—	—	16	—	—	—	—	—
15	30		0	—	—	—	—
—	—	29	—	—	—	—	—
—	—	—	—	—	—	—	—
—	—	400	—	0	—	—	—
—	2	4	—	6	6	—	—
—	—	—	—	—	—	—	—
—	201	202	—	—	48	1	12
—	331	176	1,424	82(j)	9	—	—
—	—	—	—	—	—	—	—
—	—	17	—	0	—	—	—
—	—	—	—	—	—	—	—
—	2	7	28	0	—	—	—
—	91	166	1	0	—	—	—
—	—	3	—	—	—	—	—
3	10	15	15	0	—	—	—
—	—	—	—	—	—	—	—
0	33	28	13	0	0	0	0
10	0	75	20	0	—	—	—
—	7	46	1	0	—	—	—
—	—	—	4	0	—	—	—

(i) Direct supply only..

(j) 73 lube only.

Bulk Plants				Terminals				
	Company-operated				Company-operated			
Total	Salary-operated	Commission-operated	Jobber-operated Bulk plants	Total	Salary-operated	Commission-operated	Jobber operated Terminals	Company
0	—	—	—	0	—	—	—	**Red Hed Oil Co., Inc.**
15	12	3	—	0	—	—	0	**Redwood Oil Co., Inc.**
0	—	—	—	0	—	—	—	**Reinauer Petroleum Co.**
4	4	—	—	—	—	—	—	**Reinhardt Corp.**
—	—	—	—	—	—	—	—	Reynolds Industries, Inc.
—	—	—	—	—	—	—	—	Rich Oil, Inc.
3	—	1	—	—	—	—	—	River Oil Co.
1	1	—	0	0	—	—	0	Roach Oil Co.
0	—	—	—	—	—	0	0	**Robinson Oil Co., Inc.**
—	—	—	—	—	—	—	1	**Ross Service Center**
3	3	—	—	—	—	—	—	**Royster Oil Co., Inc.**
1	1	—	—	—	—	—	—	**Russell Petroleum Corp.**
2	—	2	—	—	—	—	—	Sahara Oil Co., Inc.
3	3	—	—	—	—	—	—	Santa Fuel, Inc.
1	1	—	—	—	—	—	—	Santee Oil Co., Inc.
—	—	—	—	—	—	—	—	Save-X USA, Inc.
4	3	1	0	—	—	—	—	**SCASCO**
—	—	—	—	—	—	—	—	**Schaeffer Oil, Inc.**
4	4	—	—	—	—	—	—	**Sears Oil Co. Inc.**
2	1	—	1	—	—	—	—	**Shay Oil Co., Inc.**
—	—	—	—	—	—	—	—	Shelby Petroleum Corp.
—	—	—	386	87	62	25	—	Shell Oil Co.
10	10	—	0	0	—	—	0	Shipley Oil Co.
0	—	—	—	0	—	—	0	Shotmeyer Bros. Petroleum Corp.
9	9	—	0	1	1	—	0	**The SICO Co.**
—	—	—	—	—	—	—	—	**Simon Oil Co., Inc.**
—	—	—	—	100	12	—	—	**Sinclair Oil Corp.**
—	—	—	—	—	—	—	—	**R.L. Smeltz Oil Co., Inc.**
1	1	—	0	0	—	—	0	SOS Oil Corp.
4	—	—	0	0	—	—	0	Southern Counties Oil Co.
—	—	—	—	—	—	—	—	Southern Oil Co. Inc.
0	—	—	—	0	—	—	—	The Spencer Cos.
1	—	—	—	0	—	—	—	**M. Spiegel & Sons Oil Corp.**
—	—	—	—	—	—	—	—	**SSG Corp.**
0	0	0	365	102	47	0	2	**Star Enterprise**
1	0	0	1	0	—	—	0	**The Star Oil Co.**
0	—	—	0	6	6	0	0	Steuart Petroleum Co.
1	—	—	0	0	—	—	0	Stevens Oil Co.
10	10	—	2	2	2	—	0	Sugarcreek Corp.
0	—	—	0	0	—	—	0	Sumrall Oil Services, Inc.
—	—	—	—	47	—	—	—	**Sun Company, Inc.**
—	—	—	—	—	—	—	—	**Sunshine Jr. Stores, Inc.**
0	—	—	—	0	—	—	—	**Taylor Oil Co.**
0	—	—	15	8	7	0	5	**Tesoro Petroleum Corp.**
0	—	—	345	44	44	0	0	Texaco, Inc.
0	0	—	—	0	—	—	0	Texas Star Oil Co.
4	4	—	—	—	—	—	—	Thornhill Oil Co., Inc.
—	—	—	—	—	—	—	—	Thrifty Oil Co.
—	—	—	—	—	—	—	—	**Time Saver Store**
—	—	—	—	—	—	—	—	**TOC Retail Inc., dba Majik Market**
—	—	—	—	—	—	—	—	**Tooley Oil Co.**
—	—	—	—	22	4	—	—	**Tosco Corp.**
—	—	—	—	10	10	—	—	Total Petroleum, Inc.
—	—	—	—	—	—	—	—	Town Pump Inc. & Affiliates
—	—	—	—	—	—	—	—	Transit Oil Co.
—	—	—	—	—	—	—	—	Travelers Petroleum, Inc.
—	—	—	—	—	—	—	—	**Trenton Oil Co.**
—	—	—	—	—	—	—	—	**Triton, Inc.**
—	—	—	—	—	—	—	—	**Triton Fuels, Inc.**
0	—	—	20	0	—	—	0	**Ultramar**
1	0	0	0	0	—	—	0	UltraPower Corp.
—	—	—	—	—	—	—	—	Uni-Marts, Inc.
0	—	—	—	1	1	—	0	United Refining Co.
118(k)	1	—	80	12	12	—	N/A	Unocal Corp.
—	—	—	—	—	—	—	—	**V-1 Oil Co.**
1	0	0	0	0	—	—	0	**Vista Marketing Group Ltd.**
—	—	—	—	—	—	—	—	**Waco Oil Co., Inc.**
0	—	—	0	—	—	—	—	**Wake Up Oil Co., Inc.**
3	3	—	—	1	1	—	0	Warren Equities, Inc.
—	1	—	—	—	—	—	—	Webster Oil Co.
1	1	—	—	—	—	—	—	Wesson Inc.
—	—	—	—	—	—	—	—	A.T. Williams Oil Co.
3	3	0	0	0	0	0	0	**J.H. Williams Oil Co., Inc.**
12	9	1	—	1	1	—	—	**The Willis Group, Inc.**
—	—	—	—	—	—	—	—	**Wooten Oil Co.**
0	—	—	—	0	—	—	—	**Wright Industries, Inc.**

(k) Includes 103 distributors on a lease basis.

Branded Retail Outlets

Company	Total Branded Retail Outlets	Number of States Where Gasoline Brand Is Marketed	New England						Middle Atlantic				
			ME	NH	VT	MA	RI	CT	NY	NJ	PA	DE	MD
Acme Petroleum Fuel Co.	125	2	—	—	—	—	—	—	—	—	—	—	—
Ada Resources	64	1	—	—	—	—	—	—	—	—	—	—	—
Advanced Oil Co.	15	1	—	—	—	—	—	—	15	—	—	—	—
Amoco Corp.	9,679	32	—	—	—	—	—	49	329	312	434	22	244
Anchor Gasoline Corp	58	1	—	—	—	—	—	—	—	—	—	—	—
Arco	1,626(a)	5	—	—	—	—	—	—	—	—	—	—	—
Arkansas Valley Petroleum	117	2	—	—	—	—	—	—	—	—	—	—	—
Ashland Oil Inc.	1,848	18	—	—	—	—	—	—	—	—	21	—	—
Aztex Enterprises	22	1	—	—	—	—	—	—	—	—	—	—	—
BP America	7,499	33	7	8	35	54	—	60	63	64	281	9	17
Bagwell Oil Co., Inc.	27	2	—	—	—	—	—	—	—	—	—	—	1
Bedford Valley Petroleum Corp.	42	3	—	—	—	—	—	—	—	—	25	—	12
Best Oil Co.	18	2	—	—	—	—	—	—	—	—	17	—	—
Bostick Brothers, Inc.	14	1	—	—	—	—	—	—	—	—	—	—	—
Bradley Petroleum, Inc.	60	3	—	—	—	—	—	—	—	—	—	—	—
Bray Terminals, Inc.	35	2	—	—	3	—	—	—	32	—	—	—	—
Broken Hill Prop./Pacific Resources	27	1	—	—	—	—	—	—	—	—	—	—	—
Browning Oil Co.	30	1	—	—	—	—	—	—	—	—	—	—	—
Bursaw Oil Corp.	46	2	—	2	—	44	—	—	—	—	—	—	—
By-Lo Oil Co.	17	1	—	—	—	—	—	—	—	—	—	—	—
Campbell Oil Co.	73	1	—	—	—	—	—	—	—	—	—	—	—
Cannon Oil Corp.	16	3	—	—	—	—	—	—	—	—	—	—	—
Cenex	798	13	—	—	—	—	—	—	—	—	—	—	—
Center Independent Oil Co.	15	1	—	—	—	—	—	—	—	—	15	—	—
Certified Oil Co.	147	3	—	—	—	—	—	—	—	—	—	—	—
Champlain Oil Co.	115	4	—	20	88	2	—	—	5	—	—	—	—
Chapman, Inc.	72	3	—	—	—	—	—	—	—	—	—	—	—
Chevron Corp.	9,242(b)	32	—	—	—	—	—	—	—	—	2	—	127
Circle K Corp.	764	18	1	—	—	4	—	—	—	—	—	—	—
Citgo Petroleum Corp.	11,319	46	226	140	93	378	50	267	727	219	570	32	215
Clark Oil & Refining Corp.	887	12	—	—	—	—	—	—	—	—	5	—	—
Coast Oil Co.	72	1	—	—	—	—	—	—	—	—	—	—	—
The Coastal Corp.	962	34	5	2	2	7	1	4	69	63	40	—	3
The Coen Co.	100	1	—	—	—	—	—	—	—	—	—	—	—
Colonial Oil Industries, Inc.	57	3	—	—	—	—	—	—	—	—	—	—	—
Como Oil Co.	29	1	—	—	—	—	—	—	—	—	—	—	—
Conoco Inc.	4,612	36	—	—	—	—	—	—	—	—	—	—	—
Consumers Gasoline Stations, Inc.	64	4	—	—	—	—	—	—	—	—	—	—	—
Consumers Oil	30	1	—	—	—	—	—	—	—	30	—	—	—
Crown Central Petroleum Corp.	523	8	—	—	—	—	—	—	—	—	2	—	97
Crystal Flash Petroleum Corp.	25	1	—	—	—	—	—	—	—	—	—	—	—
CSC Oil Co.	14	2	—	—	—	—	—	—	—	—	—	—	—
Dairy Mart Convenience Stores	432	15	—	4	—	14	3	29	12	—	1	—	—
DeBlois Oil Co.	79	3	—	—	—	13	34	32	—	—	—	—	—
Diamond Shamrock, Inc.	1,918	8	—	—	—	—	—	—	—	—	—	—	—
Dixie Oil Co.	69	3	—	—	—	—	—	—	—	—	—	—	—
East Coast Oil Corp.	44	1	—	—	—	—	—	—	—	—	—	—	—
Emro Marketing Co.	1,590	16	—	—	—	—	—	—	—	—	—	—	—
Englefield Oil Co.	85	2	—	—	—	—	—	—	—	—	—	—	—
Exxon Co., USA	10,876	39	212	80	0	123	13	83	226	457	590	47	318
Farm & Home Oil Co.	43	2	—	—	—	—	—	—	—	2	41	—	—
Farmland Industries	1,118	15	—	—	—	—	—	—	—	—	—	—	—
Fina, Inc.	2,919	25	—	—	—	—	—	—	—	—	—	—	—
Flying J, Inc.	93	25	—	—	—	—	—	—	—	—	—	—	—
H.N. Funkhouser & Co.	20	1	—	—	—	—	—	—	—	—	—	—	—
Gate Petroleum Co.	138	9	—	—	—	—	—	—	—	—	—	—	—
Getty Petroleum Corp.	2,038	12	97	78	53	281	33	111	668	300	280	20	49
Giant Industries, Inc.	44	3	—	—	—	—	—	—	—	—	—	—	—
Global Petroleum Corp.	144	10	—	2	1	35	2	1	—	—	5	70	16
Golub Corp.	12	2	—	—	—	1	—	11	—	—	—	—	—
Gresham Petroleum Co.	35	1	—	—	—	—	—	—	—	—	—	—	—
Guttman Oil Co.	72	3	—	—	—	—	—	—	—	—	47	—	—
Harris Oil Co.	34	1	—	—	—	—	—	—	—	—	—	—	—
Hawaiian Independent Refinery	28	1	—	—	—	—	—	—	—	—	—	—	—
Highway Oil, Inc.	174	22	—	2	2	—	—	—	22	—	22	—	3
Angus I. Hines, Inc.	62	3	—	—	—	—	—	—	—	—	—	—	—
Barney Holland Oil Co.	75	1	—	—	—	—	—	—	—	—	—	—	—
Horkey Oil Co., Inc.	35	1	—	—	—	—	—	—	—	—	—	—	—
Hough Petroleum	51	2	—	—	—	—	—	—	—	48	3	—	—
Huck's Convenience Store	101	5	—	—	—	—	—	—	—	—	—	—	—
Hull Oil Co.	24	1	—	—	—	—	—	—	—	—	—	—	—
Jacobus Petroleum Products, Inc.	42	1	—	—	—	—	—	—	—	—	—	—	—
J&L Oil, Inc.	54	3	—	—	—	—	—	—	—	—	—	—	—
Kellett Oil Co.	41	1	—	—	—	—	—	—	—	—	—	—	—
Kent Distributors, Inc.	23	1	—	—	—	—	—	—	—	—	—	—	—

in the United States

South Atlantic							East North Central					East South Central				West North Central			
DC	VA	WV	NC	SC	GA	FL	OH	IN	IL	MI	WI	KY	TN	AL	MS	MN	IA	MO	ND
—	—	—	98	27	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
46	386	26	701	336	673	707	209	290	849	471	379	3	627	272	222	452	326	380	160
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	24	—
—	23	283	—	—	—	47	333	29	20	9	77	759	—	—	—	205	6	3	1
—	—	—	—	—	—	—	—	—	—	—	—	—	22	—	—	—	—	—	—
—	130	83	744	422	822	556	961	24	2	99	—	559	690	483	406	—	—	1	—
—	26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	14	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	30	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	17	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	73	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	1	2	—	—	—	—	—	—	—	13	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	116	—	—	—	—	184	26	—	159
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	10	—	—	—	—	133	—	—	—	—	4	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
11	430	170	204	82	647	617	26	8	—	—	—	443	110	597	300	—	—	1	—
—	—	24	31	115	33	2	—	—	—	—	—	—	8	18	18	—	—	—	—
2	572	82	508	190	569	917	144	88	239	213	281	99	282	490	131	16	33	218	—
—	—	3	—	—	—	—	184	107	223	174	83	22	—	—	—	18	7	51	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	46	4	6	2	11	70	—	5	41	—	—	13	29	5	3	7	109	72	—
—	—	—	—	—	—	—	100	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	6	21	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	29	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	7	—	—	—	—	—	16	31	10	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	83	—	112	103	65	21	—	—	—	—	—	—	—	40	—	—	—	—	—
—	—	—	—	—	—	—	25	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	6	—	—	—	—	8	—	—	—	—	—	—	—
—	—	—	7	—	—	13	132	19	12	12	—	157	16	—	—	—	1	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	—	—
—	—	—	—	—	45	23	—	—	—	—	—	—	—	1	—	—	—	—	—
—	44	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	4	36	79	86	79	440	286	148	248	56	61	14	12	21	—	—	—	—
—	—	11	—	—	—	—	74	—	—	—	—	—	—	—	—	—	—	—	—
37	641	351	981	512	392	474	13	0	0	0	0	1	539	280	160	0	0	1	0
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	42	—	—	—	—	—	—	52	199	31	46
—	3	—	33	44	307	387	—	—	24	—	3	2	116	75	49	90	10	89	0
—	1	—	1	1	2	—	1	2	1	—	—	1	1	—	—	—	—	—	—
—	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	4
—	5	2	5	14	8	93	—	—	—	—	—	7	1	—	—	—	—	—	—
—	68	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	1	11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	35	—	—	—	—
—	—	8	—	—	—	—	17	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	5	—	—	—	22	30	9	—	2	—	8	7	2	2	—	—	—	—
—	60	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	5	80	—	—	1	5	—	—	—	—	10	—
—	—	—	—	—	—	24	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	42	—	—	—	—	—	—	—	—
—	—	—	—	—	5	—	—	—	40	—	9	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	41	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

			West South Central				Mountain								Pacific				
SD	NE	KS	AR	LA	OK	TX	MT	ID	WY	CO	NM	AZ	UT	NV	WA	OR	CA	AK	HI
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	64	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
168	132	194	—	—	—	—	—	17	—	223	—	—	40	—	—	—	—	—	—
—	—	—	—	—	58	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	85	—	74	217	82	1,168	—	—
—	—	—	—	—	93	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6	—	—	—	—	—	—	22	—	1	—	—	—	—	—	3	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	9	—	1	2	—	—	—	—	3	1	—	—	240	245	418	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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—	—	—	—	—	—	—	—	—	1	54	5	—	—	—	—	—	—	—	—
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—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
99	23	9	—	—	—	—	60	23	5	—	—	—	4	—	89	1	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	22	—	5	45	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	265	481	42	1,702	44	123	26	—	176	180	117	76	316	216	1,495	92	116
—	—	—	15	134	59	34	—	—	—	—	—	51	12	6	6	—	—	—	—
2	11	39	323	368	346	1,286	—	19	—	189	34	71	123	129	120	1	267	—	—
—	—	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	72	—	—
6	45	139	14	16	32	65	—	—	3	23	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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—	—	16	54	39	60	1,513	—	—	—	150	85	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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—	—	—	1	19	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
14	0	0	295	497	1	1,944	165	27	16	1	89	255	12	38	191	74	726	0	0
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
101	193	249	3	—	97	58	—	2	6	38	1	—	—	—	—	—	—	—	—
7	5	109	157	107	118	1,017	0	0	0	5	151	10	1	0	—	—	—	—	—
—	1	—	2	—	—	5	4	10	2	2	—	3	13	2	16	6	10	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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—	—	—	—	—	—	23	—	—	—	—	—	—	—	—	—	—	—	—	—

Branded Retail Outlets

Company	Total Branded Retail Outlets	Number of States Where Gasoline Brand is Marketed	New England						Middle Atlantic				
			ME	NH	VT	MA	RI	CT	NY	NJ	PA	DE	MD
Kerr-McGee Refining Corp.	1,313	13	—	—	—	—	—	—	—	—	—	—	—
Kimber Petroleum Corp.	75	1	—	—	—	—	—	—	—	75	—	—	—
Kocolene Oil Corp.	73	4	—	—	—	—	—	—	—	3	—	—	—
Krause Gentle Corp.	91	2	—	—	—	—	—	—	—	—	—	—	—
Kwik Shop Inc.	208	5	—	—	—	—	—	—	—	—	3	—	—
Carlos R. Leffler	210	1	—	—	—	—	—	—	—	—	210	—	—
H.C. Lewis Oil Co.	27	1	—	—	—	—	—	—	—	—	—	—	—
The Lyden Co.	100	1	—	—	—	—	—	—	—	—	—	—	—
Marathon Petroleum Co.	2,106	9	—	—	—	—	—	—	—	—	9	—	—
Martin Oil Marketing, Ltd.	43	2	—	—	—	—	—	—	—	—	—	—	—
McLeieer Oil, Inc....	40	1	—	—	—	—	—	—	—	—	—	—	—
Merrit Truax Inc.	33	1	—	—	—	—	—	—	—	—	—	—	—
MFA Oil Co.	250	1	—	—	—	—	—	—	—	—	—	—	—
Mid-Missouri Oil Co.	13	1	—	—	—	—	—	—	—	—	—	—	—
Mid-States Petroleum	129	3	—	—	—	—	—	—	—	—	—	—	—
Midwest Petroleum Co.	102	2	—	—	—	—	—	—	—	—	—	—	—
Miller Enterprises, Inc.	121	1	—	—	—	—	—	—	—	—	—	—	—
Miller Oil Co.	85	6	—	—	—	—	—	—	—	—	—	—	—
Mini-Mart Inc.	107	6	—	—	—	—	—	—	—	—	—	—	—
Missouri Terminal Oil Co.	14	1	—	—	—	—	—	—	—	—	—	—	—
Mobil Oil Corp.	9,068	34	250	180	155	533	68	302	1,331	497	611	55	118
Moto Inc. (FKG Oil Co.)	51	6	—	—	—	—	—	—	—	—	—	—	—
Munro Petroleum & Terminal Corp.	27	1	—	—	—	—	—	—	—	—	—	—	—
Murphy Oil USA, Inc.	623	14	—	—	—	—	—	—	—	—	—	—	—
National Oil & Gas Inc.	90	2	—	—	—	—	—	—	—	—	—	—	—
Nea. Inc.	25	1	—	—	—	—	—	—	—	—	—	—	—
Nella Oil Co.	25	1	—	—	—	—	—	—	—	—	—	—	—
NOCO Energy Corp.	33	1	—	—	—	—	—	—	33	—	—	—	—
Northville Industries Corp.	105	2	—	—	—	—	—	—	67	38	—	—	—
Pal Oil Company, Inc.	64	1	—	—	—	—	—	—	64	—	—	—	—
Parker Oil Co., Inc.	75	3	—	—	—	—	—	—	—	—	—	—	1
Patterson Oil Co., Inc.	32	1	—	—	—	—	—	32	—	—	—	—	—
Pennzoil Products Co.	393	8	—	—	—	—	—	—	18	—	89	—	—
Petro USA (Petroleum Sales & Service	40	1	—	—	—	—	—	—	40	—	—	—	—
Petroleum Marketers, Inc.	142	3	—	—	—	—	—	—	—	—	—	—	1
Petroleum Products Corp.	61	4	—	—	—	—	—	—	1	—	49	—	3
Phillips 66 Co.	7,474	29	—	—	—	—	—	—	—	—	—	—	—
Piasa Motor Fuels, Inc.	18	2	—	—	—	—	—	—	—	—	—	—	—
Pilot Corp.	90	24	—	—	—	—	—	—	2	—	2	—	1
Pride Oil Co. (Miss.)	14	2	—	—	—	—	—	—	—	—	—	—	—
Pyramid Oil Co.	115	1	—	—	—	—	—	—	—	115	—	—	—
Quality Oil Co., Inc.	115	1	—	—	—	—	—	—	—	—	—	—	—
Quicktrip Corp.	293	6	—	—	—	—	—	—	—	—	—	—	—
Red Hed Oil Co., Inc.	35	1	—	—	—	—	—	—	—	—	—	—	—
Redwood Oil Co.	85	1	—	—	—	—	—	—	—	—	—	—	—
Rich Oil Inc.	91	3	—	—	—	—	—	—	—	—	—	—	—
River Oil Co.	38	2	—	—	—	—	—	—	—	—	—	—	—
Robinson Oil Co., Inc.	23	1	—	—	—	—	—	—	—	—	—	—	—
Royster Oil Co., Inc.	24	1	—	—	—	—	—	—	—	—	—	—	—
Russell Petroleum Corp.	36	1	—	—	—	—	—	—	—	—	—	—	—
Sahara Oil Co., Inc.	25	1	—	—	—	—	—	—	—	—	—	—	—
Santa Fuel, Inc.	56	3	—	—	—	—	2	47	7	—	—	—	—
SCASCO	32	1	—	—	—	—	—	32	—	—	—	—	—
Shay Oil Co. Inc.	18	1	—	—	—	—	—	—	—	—	—	—	—
Shelby Petroleum Corp.	20	2	—	—	—	—	—	—	—	—	—	—	—
Shell Oil Co.	8,975	41	—	13	—	217	54	130	207	273	128	33	221
Shipley Oil Co.	30	1	—	—	—	—	—	—	—	—	30	—	—
Shotmeyer Bros. Petroleum Corp.	64	1	—	—	—	—	—	—	—	64	—	—	—
SICO	131	3	—	—	—	—	—	—	—	31	99	1	—
Simon Oil Co., Inc.	100	1	—	—	—	—	—	—	100	—	—	—	—
Sinclair Oil Corp.	2,490	21	—	—	—	—	—	—	—	—	—	—	—
R.L. Smeltz Oil Co., Inc.	19	1	—	—	—	—	—	—	—	—	19	—	—
SOS Oil Corp.	50	1	—	—	—	—	—	—	50	—	—	—	—
The Spencer Co., Inc.	56	1	—	—	—	—	—	—	—	—	—	—	—
M. Spiegel & Sons Oil Corp.	50	1	—	—	—	—	—	—	50	—	—	—	—
SSG Corp.	32	2	—	—	—	—	—	—	—	—	—	—	—
Star Enterprise	8,653	25	73	53	56	271	60	187	258	270	584	57	201
The Star Oil Co.	22	1	—	—	—	—	—	—	—	—	—	—	—
Steuart Petroleum Co.	67	6	—	—	—	—	—	—	—	—	—	—	17
Stevens Oil Co.	37	2	—	—	—	—	—	—	—	—	—	—	—
Sugarcreek Corp.	280	2	—	—	—	—	—	—	277	—	3	—	—
Sumrall Oil Services Inc.	20	1	—	—	—	—	—	—	—	—	—	—	—
Sun Company, Inc.	5,854	27	58	87	54	349	93	239	1,158	379	1,251	15	102
Taylor Oil Co.	62	2	—	—	—	—	—	—	—	—	—	—	—
Tesoro Petroleum	100	1	—	—	—	—	—	—	—	—	—	—	—

in the United States

South Atlantic							East North Central					East South Central				West North Central			
DC	VA	WV	NC	SC	GA	FL	OH	IN	IL	MI	WI	KY	TN	AL	MS	MN	IA	MO	ND
—	—	—	—	—	—	—	—	10	78	—	31	—	—	—	—	20	92	120	1
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	22	40	—	—	—	8	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90	—	1
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—	—	27	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	100	—	—	—	—	—	—	—	—	—	—	—	—
—	—	22	—	2	—	—	682	431	247	537	31	145	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	18	25	—	—	—	—	—	—	—	—	—	—
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—	—	—	—	—	—	—	—	—	20	—	—	—	—	—	—	—	—	82	—
—	—	—	—	—	—	121	—	—	—	—	—	—	—	—	—	—	—	—	—
—	58	—	27	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	14	—
1	180	47	160	0	8	493	158	67	363	508	520	37	90	10	1	253	0	89	18
—	—	—	—	—	—	—	10	4	28	—	5	—	—	—	—	2	—	2	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	27	—	—	—	—
—	13	—	28	11	43	85	—	—	—	11	100	9	49	93	33	100	—	—	—
—	—	—	—	—	—	—	3	87	—	—	—	—	—	—	—	—	—	—	—
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—	71	—	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	6	82	—	—	—	—	166	2	—	5	—	25	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	128	13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	45	—	601	235	378	43	—	272	467	63	227	28	337	281	128	391	227	585	27
—	—	—	—	—	—	—	—	—	16	—	—	—	—	—	—	—	—	2	—
—	18	1	1	1	—	1	3	2	2	1	1	2	40	1	—	—	1	2	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	12	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	115	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	36	—	—	—	7	—	—	—	—	—	—	—	48	67	—
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—	—	—	—	—	—	—	—	—	—	—	—	10	10	—	—	—	—	—	—
9	250	13	293	133	323	605	411	326	588	528	106	285	259	286	216	0	13	156	0
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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—	—	—	—	—	—	—	—	—	16	—	27	—	—	—	—	130	196	324	169
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	56	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	29	—	—	—	—	—	—	—	—
—	425	22	664	318	517	935	—	—	—	—	—	28	379	414	279	—	—	6	—
—	—	—	—	—	—	—	—	—	—	22	—	—	—	—	—	—	—	—	—
—	24	—	10	11	4	1	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	1	36	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	20	—	—	—	—
8	23	69	129	10	—	—	523	136	160	298	4	65	—	—	—	—	—	—	—
—	10	—	52	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

			West South Central				Mountain								Pacific				
SD	NE	KS	AR	LA	OK	TX	MT	ID	WY	CO	NM	AZ	UT	NV	WA	OR	CA	AK	HI
15	61	112	221	—	400	152	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	47	62	—	—	18	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9	3	—	—	—	—	—	23	—	43	6	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	1	245	0	733	0	0	0	0	0	181	0	0	0	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
88	224	321	221	140	499	906	—	69	40	222	147	—	162	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	1	1	—	2	—	—	—	—	1	2	—	—	—	—	—	—	—
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—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	68	—	—	67	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	18	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
0	0	0	86	387	1	547	0	20	0	8	68	50	21	32	116	186	1,300	0	57
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
193	184	54	62	—	150	—	194	180	76	280	14	1	204	14	19	8	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	60	525	—	2,011	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	15	—	334	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	100	—

Branded Retail Outlets

Company	Total Branded Retail Outlets	Number of States Where Gasoline Brand is Marketed	New England						Middle Atlantic				
			ME	NH	VT	MA	RI	CT	NY	NJ	PA	DE	MD
Texaco, Inc.	4,934	24	—	—	—	—	—	—	—	—	—	—	—
Texas Star Oil Co.	15	1	—	—	—	—	—	—	—	—	—	—	—
Thornhill Oil Co., Inc.	29	1	—	—	—	—	—	—	—	—	—	—	—
Thrifty Oil Co.	250	1	—	—	—	—	—	—	—	—	—	—	—
Time Saver Stores	23	1	—	—	—	—	—	—	—	—	—	—	—
TOC Retail Inc., dba Majik Markets	306	10	—	—	—	—	—	—	—	—	—	—	—
Total Petroleum, Inc.	2,776	22	—	—	—	—	—	—	—	—	—	—	—
Town Pump Inc. & Affiliates	62	1	—	—	—	—	—	—	—	—	—	—	—
Travelers Petroleum, Inc.	16	1	—	—	—	—	—	—	—	—	—	—	—
Trenton Oil Co., Inc.	30	1	—	—	—	—	—	—	—	30	—	—	—
Triton Inc.	29	3	—	—	—	—	—	—	—	—	—	—	—
Ultramar	400	1	—	—	—	—	—	—	—	—	—	—	—
United Refining Co.	403	3	—	—	—	—	—	—	217	—	169	—	—
Unocal	1,931(c)	7	—	—	—	—	—	—	—	—	—	—	—
V-1 Oil Co.	36	6	—	—	—	—	—	—	—	—	—	—	—
Vista Marketing Group Ltd.	17	4	—	—	—	—	—	—	—	—	—	—	—
Waco Oil Co., Inc.	15	2	—	—	—	—	—	—	—	—	—	—	—
Wake Up Oil Co., Inc.	37	1	—	—	—	—	—	—	—	—	—	—	—
Warren Equities, Inc.	258	8	11	9	—	63	48	53	46	23	5	—	—
Wesson, Inc.	40	1	—	—	—	—	—	40	—	—	—	—	—
A.T. Williams Oil Co.	104	2	—	—	—	—	—	—	—	—	—	—	—
J.H. Williams Co., Inc.	83	1	—	—	—	—	—	—	—	—	—	—	—
The Wills Group, Inc.	104	4	—	—	—	—	—	—	—	—	—	2	87
Wooten Oil Co.	54	3	—	—	—	—	—	—	—	—	—	—	—

(a) Excludes 6 am/pms with no gasoline sales.
(b) Excludes airport & marine outlets, new car dealerships & military exchanges.
(c) Does not include UNO-VEN or Southeast marketing.
Note: Due to space considerations, companies with fewer than 11 outlets do not appear in this listing.

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ProEco's probe system is certified intrinsically safe and is the only equipment in the underground tank testing industry to carry the prestigious MET Certification.

MET

THE PROBE
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- No large truck sitting on your property.
- No disruption of your business.

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in the United States

South Atlantic							East North Central					East South Central				West North Central			
DC	VA	WV	NC	SC	GA	FL	OH	IN	IL	MI	WI	KY	TN	AL	MS	MN	IA	MO	ND
—	—	—	—	—	—	—	—	—	22	—	2	—	—	—	—	140	156	278	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	29	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	1	—	19	41	80	44	—	—	—	—	—	8	32	26	22	—	—	—	—
—	—	—	—	—	—	—	10	3	39	511	68	1	19	—	2	106	117	429	4
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	16	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	2	—	20	7	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	17	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	5	—	7	—	—	—	—	—	1	4	—
—	—	—	—	—	—	—	3	—	—	—	—	12	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	37	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	—
—	40	—	64	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	83	—	—	—	—	—	—	—	—	—	—	—	—	—
2	13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	1	—	52	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

OUR
UNDERCOVER WORK
STARTS
HERE
No. 1
GATHERING THE FACTS
THE COMPLETE CASE

			West South Central				Mountain								Pacific				
SD	NE	KS	AR	LA	OK	TX	MT	ID	WY	CO	NM	AZ	UT	NV	WA	OR	CA	AK	HI
62	147	136	160	—	467	298	2	92	65	269	168	302	190	104	528	369	862	66	50
—	—	—	—	—	—	15	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	250	—	—
—	—	—	—	23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	33	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
36	163	409	110	2	554	84	—	—	6	87	16	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	62	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	400	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	110	—	38	93	72	1,534	4	80
—	—	—	—	—	—	—	7	10	13	1	—	—	3	—	2	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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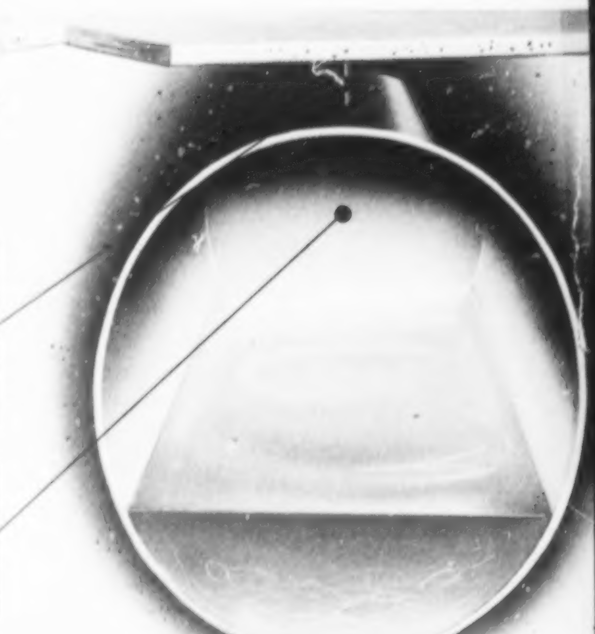

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Average Number of Employees

(As of January 1, 1991)

	Mining	Refining		Transportation		Wholesale	Retail	
State	**Oil and Gas Extraction**	**Petroleum Refining**	**Oils and Greases**	**Pipelines, Except Gas**	**Gas Distribution**	**Petroleum Products**	**Gasoline Stations**	**Total Industry**
Alabama	2,980	387	50	82	2,827	5,620	10,317	22,263
Alaska	10,257	308	22	1,095	237	656	1,104	13,679
Arizona	106	N/A	N/A	129	1,724	1,314	9,545	12,818
Arkansas	2,588	475	N/A	274	2,223	2,305	5,893	13,758
California	30,972	23,547	909	1,295	11,524	13,188	62,217	143,652
Colorado	12,599	471	46	155	2,145	2,366	9,514	27,296
Connecticut	40	0	52	0	2,509	1,773	8,768	13,142
Delaware	13	767	11	3	319	223	1,508	2,844
Dist. of Col.	241	40	N/A	0	626	184	849	1,940
Florida	514	17	285	67	2,327	7,501	30,348	41,059
Georgia	77	87	109	517	4,282	6,674	18,475	30,221
Hawaii	N/A	477	0	0	N/A	781	3,353	4,611
Idaho	5	0	0	20	353	1,450	3,684	5,512
Illinois	3,362	7,623	1,360	901	8,087	10,720	26,854	58,907
Indiana	512	2,253	344	389	2,681	3,481	20,013	29,673
Iowa	31	18	180	191	1,092	2,791	14,103	18,406
Kansas	8,447	1,945	355	2,197	2,526	2,606	9,155	27,231
Kentucky	1,828	3,422	71	136	2,897	3,206	12,553	24,113
Louisiana	53,700	10,500	655	1,015	5,791	5,611	8,271	85,543
Maine	21	0	0	67	73	,243	4,249	5,653
Maryland	28	N/A	253	N/A	1,128	2,925	12,917	17,251
Massachusetts	9	N/A	429	15	5,163	2,653	14,209	22,478
Michigan	3,880	687	811	278	6,694	5,949	26,475	44,774
Minnesota	70	N/A	137	217	2,242	2,833	18,803	24,302
Mississippi	5,376	1,733	153	222	2,030	2,557	7,140	19,211
Missouri	74	N/A	308	206	3,950	5,809	21,511	31,858
Montana	1,698	775	0	86	370	1,209	3,485	7,623
Nebraska	459	N/A	N/A	75	1,387	2,479	7,508	11,908
Nevada	205	0	0	9	872	2,229	4,312	7,627
New Hampshire	0	0	28	3	298	384	3,021	3,734
New Jersey	96	6,633	1,035	143	2,364	3,670	18,431	32,372
New Mexico	9,955	589	32	237	2,556	2,246	4,819	20,434
New York	1,583	2,100	417	142	6,627	7,977	28,056	46,902
North Carolina	61	N/A	307	116	3,014	5,786	10,794	20,078
North Dakota	2,883	231	107	134	872	2,061	2,514	8,802
Ohio	5,819	7,112	630	676	7,371	6,561	35,219	63,388
Oklahoma	41,857	4,506	633	1,177	5,465	4,777	8,262	66,677
Oregon	42	N/A	78	N/A	1,426	2,308	8,954	12,808
Pennsylvania	3,500	9,200	800	700	8,100	8,100	28,200	58,600
Rhode Island	N/A	0	0	N/A	958	399	2,270	3,627
South Carolina	28	N/A	N/A	N/A	589	3,310	7,817	11,744
South Dakota	108	0	0	51	125	1,564	2,924	4,772
Tennessee	228	410	55	43	1,885	5,915	12,978	21,514
Texas	171,709	26,389	1,028	4,475	27,970	23,027	32,530	287,128
Utah	2,139	897	3	71	2,238	1,059	6,014	12,421
Vermont	N/A	N/A	N/A	N/A	109	389	2,119	2,617
Virginia	254	272	N/A	N/A	2,938	8,770	16,783	29,017
Washington	237	1,927	N/A	121	N/A	2,566	10,752	15,603
West Virginia	4,591	273	210	79	4,940	1,179	5,311	16,583
Wisconsin	N/A	N/A	N/A	200	2,642	3,952	18,277	25,071
Wyoming	8,941	1,011	6	223	980	731	3,537	15,429
Total	**394,123**	**117,082**	**11,909**	**18,232**	**161,546**	**199,067**	**646,715**	**1,548,674**

Note: Data differ from the Bureau of Labor Statistics national averages due to confidentiality rules.

Sources: Independent Petroleum Assn. of America, "The Oil & Natural Gas Producing Industry in Your State," 1991-1992, and state government agencies.

Distillate Sales in 1989 and 1990...

(Add 000 gal.)

	Residential		Commercial		Industrial	
Destination	**1990**	**1989**	**1990**	**1989**	**1990**	**1989**
PAD District 1						
Connecticut	478,734	597,477	122,739	143,928	24,633	39,079
Delaware	40,516	55,486	14,154	12,513	7,976	8,934
Dist. of Col.	6,261	6,115	21,007	22,669	29	107
Florida	9,786	15,238	135,866	116,672	35,044	39,961
Georgia	10,465	11,208	53,234	40,934	46,480	43,679
Maine	211,107	238,445	70,729	68,062	16,763	27,390
Maryland	179,490	215,803	87,776	84,163	25,505	28,770
Massachusetts	724,299	862,166	261,278	325,448	67,671	84,689
New Hampshire	142,248	180,907	49,885	49,823	9,644	12,902
New Jersey	481,733	668,788	289,750	342,936	57,755	70,026
New York	1,111,493	1,460,843	543,577	649,743	54,145	62,048
North Carolina	148,996	196,372	81,192	98,741	63,289	81,108
Pennsylvania	712,557	925,768	234,137	306,381	141,696	150,398
Rhode Island	107,008	133,478	28,190	32,707	6,945	9,234
South Carolina	42,298	53,820	25,419	38,861	25,341	24,867
Vermont	80,843	90,843	23,590	30,329	9,549	8,474
Virginia	214,004	263,958	99,280	98,760	59,431	74,019
West Virginia	24,035	27,056	18,545	20,776	82,907	81,502
Total	**4,725,873**	**6,003,771**	**2,160,348**	**2,483,446**	**734,803**	**847,187**
PAD District 2						
Illinois	50,271	66,377	64,864	59,185	69,430	75,664
Indiana	72,029	97,159	44,857	48,503	78,551	84,897
Iowa	33,376	44,732	20,756	20,565	14,317	13,458
Kansas	1,013	1,345	11,855	14,002	9,414	10,401
Kentucky	26,989	31,287	27,491	27,261	155,708	139,924
Michigan	174,589	200,352	72,490	87,247	41,792	50,080
Minnesota	134,994	188,737	39,359	43,396	34,084	36,800
Missouri	14,859	19,892	36,996	38,886	27,575	33,430
Nebraska	7,072	10,456	10,358	9,561	4,629	5,046
North Dakota	35,385	38,339	6,321	7,804	15,667	17,825
Ohio	170,927	192,031	69,224	70,839	102,212	111,409
Oklahoma	7	17	22,570	26,779	21,049	22,281
South Dakota	33,745	37,803	8,718	9,253	5,044	5,144
Tennessee	9,917	10,270	26,636	27,900	37,181	31,685
Wisconsin	194,172	226,563	76,744	84,664	17,869	21,416
Total	**959,345**	**1,165,360**	**539,239**	**575,845**	**634,522**	**659,460**
PAD District 3						
Alabama	1,068	1,442	45,571	51,571	125,273	81,243
Arkansas	20	32	18,399	18,475	26,400	22,918
Louisiana	389	323	45,696	35,497	30,688	24,230
Mississippi	57	273	24,664	35,915	29,476	23,570
New Mexico	503	441	26,261	21,249	33,580	44,243
Texas	110	539	137,161	163,537	186,856	236,711
Total	**2,147**	**3,050**	**297,752**	**326,244**	**432,273**	**432,915**
PAD District 4						
Colorado	1,140	1,753	18,329	22,623	36,093	35,260
Idaho	22,188	23,431	14,262	14,624	24,281	30,087
Montana	12,079	15,377	6,390	8,558	47,058	45,880
Utah	5,742	7,680	15,093	19,280	35,382	32,114
Wyoming	1,012	1,396	9,048	10,479	46,899	54,353
Total	**42,161**	**49,637**	**63,122**	**75,564**	**189,713**	**197,694**
PAD District 5						
Alaska	73,117	63,744	49,264	34,630	8,086	35,482
Arizona	444	283	21,405	15,715	61,875	59,550
California	9,466	10,108	192,228	193,766	196,947	168,271
Hawaii	15	17	21,249	20,800	6,299	4,090
Nevada	10,003	10,587	14,616	15,896	109,005	94,996
Oregon	74,738	79,305	55,992	45,131	32,057	27,587
Washington	125,593	115,235	87,562	71,707	46,743	38,062
Total	**293,376**	**279,279**	**442,316**	**397,645**	**461,012**	**428,038**
U.S. Total	**6,022,902**	**7,501,097**	**3,502,777**	**3,858,744**	**2,452,323**	**2,565,294**

Source: Distillate, Kerosine, and Residual Fuel Oil Sales data, Energy Information Administration, Fuel Oil and Kerosine Sales 1990, October 1991.

...By End Use

Special note: Since 1985, the Energy Information Administration (EIA) has been publishing two sets of data in its annual report on fuel oil and kerosine sales. The original objective was to abandon one and retain the other. Because of statistical disparities, this switchover has been delayed indefinitely. The data on these pages are called "sales" by the EIA but are compatible with prior *NPN Factbook* summaries called "deliveries" in the past.

(Add 000 gal.)

	Oil Company		Farm		Electric Utility	
Destination	**1990**	**1939**	**1990**	**1989**	**1990**	**1989**
PAD District 1						
Connecticut	208	286	1,454	2,520	3,076	5,386
Delaware	289	269	6,055	5,541	4,131	14,312
Dist. of Col.	—	—	—	—	43,677	71,970
Florida	1,148	979	49,846	47,533	88,893	79,629
Georgia	203	280	83,769	82,966	9,431	16,155
Maine	1,850	403	4,265	4,540	618	2,915
Maryland	896	968	19,468	23,920	29,099	63,558
Massachusetts	602	763	4,321	2,910	36,513	24,448
New Hampshire	53	107	1,771	1,961	1,584	3,306
New Jersey	2,477	4,236	16,503	19,113	7,716	54,808
New York	8,968	10,284	43,152	48,870	35,683	114,115
North Carolina	90	81	32,151	39,584	15,224	22,419
Pennsylvania	13,086	16,087	45,868	46,838	52,919	82,654
Rhode Island	225	249	774	199	3,246	1,961
South Carolina	671	299	26,515	27,394	7,896	11,880
Vermont	17	23	5,290	6,851	365	1,517
Virginia	672	1,088	32,765	32,398	38,813	33,892
West Virginia	2,182	1,931	6,581	4,960	14,715	22,472
Total	**33,637**	**38,333**	**380,548**	**398,098**	**393,599**	**627,397**
PAD District 2						
Illinois	810	6,078	178,552	170,578	17,417	24,651
Indiana	982	930	80,530	84,188	18,467	29,115
Iowa	23	71	148,321	147,584	4,074	4,832
Kansas	8,988	8,024	133,280	132,404	5,276	7,468
Kentucky	672	683	41,366	38,602	13,906	17,107
Michigan	1,770	1,353	61,313	59,830	26,307	37,769
Minnesota	503	524	128,425	129,423	4,425	6,384
Missouri	294	315	71,607	79,324	8,872	9,620
Nebraska	38	22	157,011	145,637	2,000	3,902
North Dakota	5,528	4,421	83,843	89,892	2,194	4,302
Ohio	2,037	6,153	80,327	74,818	25,253	21,269
Oklahoma	38,351	30,983	42,162	41,123	3,187	542
South Dakota	21	12	74,645	74,497	305	862
Tennessee	629	551	41,958	39,597	10,729	3,447
Wisconsin	51	430	90,973	85,923	13,802	17,090
Total	**60,697**	**60,550**	**1,414,313**	**1,393,420**	**156,214**	**188,360**
PAD District 3						
Alabama	19,480	9,997	73,683	60,320	9,148	10,486
Arkansas	2,575	4,913	84,153	92,106	9,828	11,073
Louisiana	370,459	328,594	100,664	91,754	7,893	20,371
Mississippi	9,886	18,459	168,806	133,238	3,641	5,072
New Mexico	17,764	11,533	15,532	16,925	4,516	6,351
Texas	362,958	302,383	333,076	345,675	33,443	61,532
Total	**783,122**	**675,879**	**775,914**	**740,018**	**68,469**	**114,885**
PAD District 4						
Colorado	2,501	1,316	44,850	54,657	1,945	5,161
Idaho	—	8	70,625	68,266	13	27
Montana	1,301	1,093	53,426	53,859	1,896	2,552
Utah	2,247	4,459	7,837	9,656	3,627	4,293
Wyoming	13,954	14,038	13,289	9,713	4,393	6,899
Total	**20,003**	**20,914**	**190,027**	**196,151**	**11,874**	**18,932**
PAD District 5						
Alaska	42,121	27,330	27	257	17,394	21,953
Arizona	411	67	26,555	31,647	3,538	4,382
California	22,836	19,399	358,602	302,124	5,757	19,719
Hawaii	2,190	923	14,158	11,132	70,068	74,240
Nevada	349	321	6,067	5,187	3,881	2,639
Oregon	476	279	48,426	49,245	354	5,363
Washington	2,924	1,222	79,156	69,650	2,531	1,017
Total	**71,307**	**49,541**	**532,991**	**469,242**	**103,523**	**129,313**
U.S. Total	**968,766**	**845,217**	**3,293,793**	**3,196,929**	**733,679**	**1,078,887**

— = No data reported.

Distillate Sales in 1989 and 1990...

(Add 000 gal.)

Destination	Railroad		Vessel Bunkering		On-Highway	
	1990	1989	1990	1989	1990	1989
PAD District 1						
Connecticut	6,349	5,413	2,110	1,956	198,547	257,361
Delaware	1,582	1,038	3,052	3,259	52,637	74,089
Dist. of Col.	6,985	13,287	14	22	22,551	23,064
Florida	90,668	85,557	90,755	89,628	881,047	899,369
Georgia	69,621	65,938	21,371	34,882	854,952	838,847
Maine	4,967	6,424	11,872	12,263	168,243	139,908
Maryland	36,782	41,025	8,746	8,709	291,462	351,150
Massachusetts	13,680	19,733	37,259	38,242	261,683	271,944
New Hampshire	62	36	732	337	51,811	59,561
New Jersey	30,339	62,696	87,641	119,169	420,466	453,482
New York	12,276	17,584	7,887	9,925	907,848	754,276
North Carolina	45,001	37,167	9,613	8,638	620,268	614,485
Pennsylvania	43,699	43,997	32,263	25,854	920,344	915,865
Rhode Island	807	534	5,071	5,896	40,645	52,932
South Carolina	29,554	30,946	4,570	5,381	417,636	302,614
Vermont	3,329	3,177	329	367	41,442	46,250
Virginia	84,328	94,408	31,726	25,289	540,468	537,569
West Virginia	24,579	26,318	66,373	63,497	147,981	159,972
Total	**504,608**	**555,278**	**421,384**	**453,314**	**6,840,031**	**6,752,738**
PAD District 2						
Illinois	145,932	139,446	38,173	32,932	1,141,593	839,968
Indiana	232,173	227,166	7,717	9,233	801,335	784,441
Iowa	27,669	33,941	4,610	2,403	372,390	349,044
Kansas	199,446	169,928	—	—	310,213	303,893
Kentucky	122,606	116,502	83,088	98,114	488,180	692,215
Michigan	40,353	42,684	3,040	4,558	527,744	528,906
Minnesota	63,075	39,444	3,546	2,674	330,563	331,625
Missouri	26,743	34,875	64,101	44,001	587,288	641,680
Nebraska	111,048	122,799	—	66	218,344	208,258
North Dakota	38,475	36,451	—	—	90,699	90,544
Ohio	119,163	123,607	10,325	8,442	923,811	960,195
Oklahoma	107,974	78,303	104	266	380,222	394,174
South Dakota	2,483	2,374	—	—	99,095	91,221
Tennessee	69,356	62,179	153,631	175,079	605,871	587,396
Wisconsin	97,788	106,289	2,483	3,022	438,460	449,764
Total	**1,404,284**	**1,335,988**	**370,818**	**380,790**	**7,315,808**	**7,253,324**
PAD District 3						
Alabama	62,906	67,231	99,452	139,715	564,351	544,882
Arkansas	36,202	35,200	2,323	666	383,712	395,236
Louisiana	61,749	78,996	493,239	460,005	434,629	385,621
Mississippi	18,445	17,890	66,873	75,914	310,708	302,523
New Mexico	41,154	52,161	—	—	220,011	205,916
Texas	364,191	389,367	225,408	322,318	1,384,705	1,387,059
Total	**584,647**	**640,845**	**887,295**	**998,618**	**3,298,116**	**3,221,237**
PAD District 4						
Colorado	77,364	88,610	—	64	217,149	185,519
Idaho	21,010	19,728	167	71	126,723	117,246
Montana	50,365	59,283	—	—	123,867	119,503
Utah	37,020	34,842	—	—	178,793	125,184
Wyoming	113,158	109,985	—	—	174,639	187,452
Total	**303,917**	**312,448**	**167**	**135**	**821,171**	**734,904**
PAD District 5						
Alaska	5,503	4,963	140,709	132,087	82,538	96,446
Arizona	10,272	8,348	—	—	331,183	314,671
California	233,606	218,393	166,401	198,830	1,819,718	1,913,647
Hawaii	18	17	98,661	82,832	24,968	23,717
Nevada	5,527	23,511	—	—	133,250	131,055
Oregon	85,265	86,388	40,543	34,274	334,950	311,843
Washington	72,463	78,045	71,029	75,565	358,744	378,110
Total	**412,654**	**419,665**	**517,343**	**523,588**	**3,085,351**	**3,169,489**
U.S. Total	**3,210,110**	**3,264,224**	**2,197,007**	**2,356,445**	**21,360,477**	**21,131,692**

— = No data reported.

...By End Use

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(Add 000 gal.)

	Military		Off-Highway		All Other		Total	
Destination	**1990**	**1989**	**1990**	**1989**	**1990**	**1989**	**1990**	**1989**
PAD District 1								
Connecticut	596	611	16,350	18,713	—	480	854,795	1,073,210
Delaware	190	85	3,872	4,202	—	—	134,454	179,727
Dist. of Col.	4,481	2,996	55	31	—	—	105,061	140,261
Florida	8,073	20,305	60,235	65,627	—	1,307	1,451,361	1,461,804
Georgia	6,420	9,153	39,995	38,179	—	1,610	1,195,940	1,183,830
Maine	5,099	2,984	6,789	12,836	—	39	502,301	516,210
Maryland	10,465	22,336	26,647	32,165	94	2,569	716,430	875,137
Massachusetts	2,013	1,988	18,575	18,219	—	—	1,427,892	1,650,549
New Hampshire	498	1,542	6,767	7,674	—	—	265,055	318,155
New Jersey	4,148	9,124	45,042	52,452	—	48	1,443,569	1,856,878
New York	8,970	10,410	37,335	40,298	21	3	2,771,355	3,178,401
North Carolina	7,594	7,794	26,584	26,655	152	2,234	1,050,155	1,135,279
Pennsylvania	2,137	10,677	63,406	51,847	21	718	2,262,132	2,577,083
Rhode Island	1,922	7,748	1,885	3,344	0	79	196,718	248,361
South Carolina	3,032	2,557	29,172	26,601	0	908	612,105	526,128
Vermont	107	229	4,576	5,717	95	—	169,532	193,778
Virginia	52,790	30,664	34,732	36,720	242	1,299	1,189,252	1,230,064
West Virginia	152	163	20,165	20,358	40	13	408,254	429,017
Total	**118,747**	**141,366**	**442,182**	**461,638**	**665**	**11,307**	**16,756,361**	**18,773,872**
PAD District 2								
Illinois	1,401	4,430	70,201	37,553	85	161	1,778,727	1,457,021
Indiana	4,124	6,569	30,797	29,465	—	2,819	1,371,561	1,404,487
Iowa	514	272	10,508	9,595	180	1,876	636,739	628,372
Kansas	2,030	855	11,658	12,352	549	1,601	693,723	662,271
Kentucky	5,196	5,419	20,578	21,811	—	19	985,780	1,188,945
Michigan	1,610	3,146	37,825	45,397	—	1,744	988,833	1,063,066
Minnesota	1,234	2,030	34,479	26,163	221	1,818	774,908	809,017
Missouri	4,441	4,994	26,383	21,499	142	1,165	869,301	929,681
Nebraska	291	1,063	11,779	17,083	—	—	522,570	523,895
North Dakota	1,383	1,344	3,719	4,509	8	194	283,223	295,626
Ohio	8,426	8,597	30,823	27,963	—	335	1,542,528	1,605,659
Oklahoma	1,480	1,491	27,939	22,047	16	227	645,062	618,234
South Dakota	381	512	5,947	5,642	57	540	230,439	227,860
Tennessee	2,492	2,785	42,768	26,619	34	650	1,001,204	968,157
Wisconsin	705	1,064	41,705	32,652	74	776	974,827	1,029,655
Total	**35,708**	**44,571**	**407,109**	**340,350**	**1,366**	**13,925**	**13,299,425**	**13,411,946**
PAD District 3								
Alabama	4,420	6,335	63,954	63,870	4	1,999	1,069,310	1,039,092
Arkansas	1,373	2,069	36,274	32,128	64	63	601,321	614,878
Louisiana	37,541	83,075	61,781	54,974	155	275	1,644,883	1,563,715
Mississippi	15,681	73,439	29,248	33,576	—	162	677,487	720,030
New Mexico	1,276	912	24,773	21,484	—	48	385,371	381,263
Texas	224,130	276,348	201,793	170,936	41	879	3,453,872	3,657,284
Total	**284,421**	**442,178**	**417,823**	**376,968**	**264**	**3,426**	**7,832,244**	**7,976,262**
PAD District 4								
Colorado	6,100	8,353	28,945	27,355	43	46	434,460	430,717
Idaho	1,899	738	19,254	13,872	64	26	300,485	288,124
Montana	446	351	13,332	15,989	52	25	310,213	322,470
Utah	4,308	4,120	17,550	18,551	—	—	307,598	260,179
Wyoming	177	186	20,966	17,844	57	353	402,591	412,697
Total	**12,930**	**13,748**	**100,047**	**93,611**	**216**	**450**	**1,755,347**	**1,714,187**
PAD District 5								
Alaska	47,800	34,075	16,136	13,980	—	—	482,695	464,948
Arizona	3,076	2,253	41,155	37,978	—	—	499,914	474,894
California	227,853	205,471	223,469	193,260	—	—	3,456,884	3,442,990
Hawaii	38,509	31,149	11,386	5,428	—	—	287,521	254,345
Nevada	4,494	4,401	21,031	24,066	—	—	308,222	312,658
Oregon	1,453	733	38,126	44,577	29	—	712,409	684,725
Washington	9,471	8,370	57,885	45,640	—	—	914,101	882,623
Total	**332,656**	**286,452**	**409,188**	**364,929**	**29**	**—**	**6,661,746**	**6,517,183**
U.S. Total	**784,462**	**928,315**	**1,776,349**	**3,299,232**	**2,540**	**29,108**	**46,305,123**	**48,393,450**

— = No data reported.

Kerosine Sales in 1989 and 1990...

(Add 000 gal.)

Destination	Residential 1990	Residential 1989	Commercial 1990	Commercial 1989	Industrial 1990	Industrial 1989
PAD District 1						
Connecticut	5,420	5,878	1,423	2,972	1,516	1,910
Delaware	3,999	5,527	278	127	50	155
Dist. of Col.	93	223	210	982	—	—
Florida	4,263	7,816	3,460	7,313	1,151	1,910
Georgia	3,077	3,634	1,769	1,494	552	1,087
Maine	15,583	16,487	1,878	1,925	107	178
Maryland	10,655	16,679	1,317	1,820	551	1,200
Massachusetts	4,507	5,541	3,528	1,323	203	758
New Hampshire	6,466	9,627	690	1,112	35	41
New Jersey	8,175	11,704	4,925	5,406	6,573	12,669
New York	48,890	56,848	7,451	10,655	3,464	13,446
North Carolina	38,995	61,797	2,166	3,618	2,487	2,454
Pennsylvania	38,155	51,980	4,157	5,827	2,545	3,285
Rhode Island	1,048	1,172	45	94	393	5
South Carolina	15,228	24,323	340	1,448	2,176	2,183
Vermont	5,349	5,698	345	1,183	180	101
Virginia	32,124	46,601	3,858	5,750	886	1,615
West Virginia	5,827	7,077	1,269	1,559	677	1,230
Total	**247,854**	**338,612**	**39,109**	**54,608**	**23,546**	**44,227**
PAD District 2						
Illinois	7,853	9,435	1,988	2,868	2,493	2,706
Indiana	21,597	24,181	2,710	1,805	2,951	2,484
Iowa	1,872	1,881	2,929	262	712	144
Kansas	866	812	485	745	150	317
Kentucky	24,932	26,500	7,299	7,440	9,507	7,564
Michigan	16,861	17,808	1,394	2,562	1,649	2,387
Minnesota	2,365	12,255	352	185	45	45
Missouri	2,234	3,118	653	561	242	282
Nebraska	328	372	1,780	132	635	24
North Dakota	387	449	23	24	3	5
Ohio	48,463	39,709	14,670	10,917	4,193	4,300
Oklahoma	785	878	970	4,004	933	386
South Dakota	318	388	6	13	—	1
Tennessee	25,100	27,983	5,361	7,037	2,281	860
Wisconsin	2,252	1,802	669	288	310	234
Total	**156,213**	**167,571**	**41,289**	**38,843**	**26,104**	**21,739**
PAD District 3						
Alabama	3,793	34,829	1,100	6,220	892	2,949
Arkansas	1,976	12,395	143	812	1,197	4,684
Louisiana	1,289	13,829	2,108	15,021	3,152	20,369
Mississippi	1,198	9,695	604	2,084	396	4,625
New Mexico	418	4,331	1,505	6,121	3,467	18,693
Texas	2,634	21,098	2,471	173,744	10,091	48,325
Total	**11,308**	**96,177**	**7,931**	**204,002**	**19,195**	**99,645**
PAD District 4						
Colorado	950	842	410	3,186	68	104
Idaho	220	48	49	8	89	4
Montana	47	20	6	2	—	—
Utah	193	108	201	83	53	19
Wyoming	54	23	36	39	85	46
Total	**1,464**	**1,041**	**702**	**3,318**	**295**	**173**
PAD District 5						
Alaska	374	51	16	55	13	7
Arizona	38	30	343	176	2,254	3,088
California	12,530	7,450	2,641	2,852	3,347	1,484
Hawaii	1	0	29	17	13	8
Nevada	1,186	994	503	327	575	217
Oregon	1,894	2,639	1,144	499	352	167
Washington	7,010	3,756	2,027	44,871	994	369
Total	**23,033**	**14,920**	**6,703**	**48,797**	**7,548**	**5,340**
U.S. Total	**516,205**	**618,321**	**95,734**	**349,568**	**76,688**	**171,124**

— = No data reported.

...By End Use

Special note: Since 1985, the Energy Information Administration (EIA) has been publishing two sets of data in its annual report on fuel oil and kerosine sales. The original objective was to abandon one and retain the other. Because of statistical disparities, this switchover has been delayed indefinitely. The data on these pages are called "sales" by the EIA but are compatible with prior *NPN Factbook* summaries called "deliveries" in the past.

(Add 000 gal.)

	Farm		All Other		Total	
Destination	**1990**	**1989**	**1990**	**1989**	**1990**	**1989**
PAD District 1						
Connecticut	9	5	347	2,998	8,716	13,793
Delaware	42	8	23	17	4,392	5,834
Dist. of Col.	—	—	—	—	304	1,204
Florida	67	36	176	411	9,116	17,486
Georgia	11	27	82	200	5,491	6,442
Maine	496	559	137	259	18,201	19,408
Maryland	324	851	51	92	12,899	20,643
Massachusetts	16	43	276	375	8,531	8,041
New Hampshire	9	26	166	223	7,366	11,030
New Jersey	15	4	507	1,751	20,196	31,534
New York	1,562	2,340	1,866	15,137	63,233	98,425
North Carolina	951	873	422	439	45,022	69,181
Pennsylvania	528	1,052	437	859	45,822	63,003
Rhode Island	0	0	7	18	1,494	1,288
South Carolina	165	605	333	697	18,243	29,256
Vermont	260	414	32	35	6,166	7,431
Virginia	713	733	475	526	38,056	55,225
West Virginia	269	416	137	168	8,179	10,449
Total	**5,437**	**7,992**	**5,474**	**24,205**	**321,427**	**469,673**
PAD District 2						
Illinois	805	580	345	1,082	13,483	16,671
Indiana	1,030	899	241	183	28,530	29,551
Iowa	629	598	155	338	6,298	3,223
Kansas	553	531	68	134	2,122	2,538
Kentucky	997	942	1,271	420	44,005	42,866
Michigan	865	320	163	411	20,931	23,487
Minnesota	480	2,162	39	63	3,280	14,710
Missouri	229	412	119	803	3,478	5,177
Nebraska	455	451	12	12	3,210	990
North Dakota	12	16	36	12	460	507
Ohio	2,303	3,501	290	2,328	69,919	60,754
Oklahoma	199	101	72	65	2,959	5,434
South Dakota	230	214	28	35	583	652
Tennessee	331	438	933	357	34,006	36,675
Wisconsin	402	441	110	79	3,743	2,843
Total	**9,520**	**11,606**	**3,882**	**6,322**	**237,007**	**246,078**
PAD District 3						
Alabama	25	272	610	4,201	6,420	48,472
Arkansas	233	1,383	232	672	3,781	19,946
Louisiana	183	3,589	1,333	19,230	8,066	72,038
Mississippi	2,894	4,480	206	6,870	5,298	27,753
New Mexico	49	424	195	653	5,635	30,221
Texas	601	5,695	4,145	52,423	19,941	301,286
Total	**3,985**	**15,843**	**6,721**	**84,049**	**49,141**	**499,716**
PAD District 4						
Colorado	648	301	54	159	2,129	4,591
Idaho	12	11	16	2	385	73
Montana	286	44	4	2	343	69
Utah	100	11	22	5	570	225
Wyoming	8	11	3	6	186	124
Total	**1,054**	**378**	**99**	**174**	**3,613**	**5,082**
PAD District 5						
Alaska	—	—	1	20	405	133
Arizona	44	27	133	104	2,814	3,424
California	1,665	823	409	644	20,594	13,253
Hawaii	4	0	9	—	56	25
Nevada	67	70	309	191	2,641	1,799
Oregon	82	88	178	27	3,650	3,420
Washington	73	81	560	15	10,664	49,093
Total	**1,935**	**1,089**	**1,599**	**1,001**	**40,824**	**71,147**
U.S. Total	**21,931**	**36,908**	**17,775**	**115,751**	**652,012**	**1,291,696**

— = No data reported.

Residual Fuel Oil Sales in 1989 and 1990...

(Add 000 gal.)

	Commercial		Industrial		Oil Company		Electric Utility	
Destination	**1990**	**1989**	**1990**	**1989**	**1990**	**1989**	**1990**	**1989**
PAD District 1								
Connecticut	40,632	66,649	55,201	72,088	301	887	533,163	749,254
Delaware	6,990	10,064	22,346	24,875	6,566	16,978	94,616	173,374
Dist. of Col.	8,578	5,571	29	12	—	—	—	—
Florida	92,916	85,434	126,353	123,955	103	88	1,769,165	1,726,877
Georgia	2,670	11,142	77,294	72,567	1,351	914	—	618
Maine	83,935	82,398	188,143	204,489	—	—	155,362	219,634
Maryland	21,533	55,648	45,495	39,721	2,572	2,679	289,175	404,651
Massachusetts	175,707	166,116	102,148	147,149	148	—	931,676	1,103,079
New Hampshire	25,444	20,573	20,511	26,457	—	—	174,147	215,811
New Jersey	57,356	77,273	136,549	170,520	5,747	6,092	251,853	525,982
New York	683,573	683,400	181,958	185,421	2,058	2,480	2,450,991	2,784,305
North Carolina	8,755	9,748	199,319	196,533	1,875	1,962	—	—
Pennsylvania	31,195	39,292	140,303	130,896	84,962	110,634	286,444	442,417
Rhode Island	23,459	19,686	17,781	21,390	—	—	10,721	22,506
South Carolina	674	1,608	74,056	85,641	125	457	—	—
Vermont	4,683	3,595	4,511	4,390	—	—	—	—
Virginia	8,545	9,070	110,340	124,315	1,740	985	103,692	232,962
West Virginia	2,549	3,793	47,246	41,660	—	—	—	—
Total	**1,279,194**	**1,351,060**	**1,549,583**	**1,672,079**	**107,548**	**144,156**	**7,051,005**	**8,601,470**
PAD District 2								
Illinois	8,025	9,831	46,717	49,340	20,655	46,544	61,367	71,844
Indiana	2,433	15,175	75,360	75,142	64,905	40,702	—	—
Iowa	1,187	1,421	3,685	6,468	—	—	—	—
Kansas	1,045	428	6,487	11,120	619	2,034	2,561	—
Kentucky	12	11	13,679	13,954	7,408	6,415	—	—
Michigan	2,802	3,881	47,977	68,667	7,570	7,667	53,885	87,400
Minnesota	10,179	11,549	15,933	24,105	11,574	9,903	—	7
Missouri	2,340	1,499	20,396	18,083	—	—	10,407	14,460
Nebraska	786	1,867	9,269	11,662	—	—	—	2,531
North Dakota	880	1,180	3,839	4,102	7,930	7,253	291	243
Ohio	863	766	55,500	70,968	3,168	5,568	7,165	20,933
Oklahoma	3,163	1,957	19,027	14,591	—	—	3,060	—
South Dakota	961	970	1,403	1,875	—	—	—	—
Tennessee	1,284	2,268	10,318	16,997	263	204	—	—
Wisconsin	8,505	12,850	31,663	27,557	3,336	3,819	—	—
Total	**44,465**	**65,653**	**361,253**	**414,651**	**127,428**	**130,109**	**138,736**	**197,418**
PAD District 3								
Alabama	23,791	21,566	17,460	14,842	—	—	—	—
Arkansas	—	—	8,399	10.224	—	—	597	5,726
Louisiana	1,554	10,909	44,383	61,230	34	22	7,916	8,524
Mississippi	—	563	37,189	46,287	—	—	47,854	51,407
New Mexico	—	—	4,533	6,361	—	—	1,027	1,775
Texas	2,787	12,817	48,909	21,186	1,109	640	8,398	7,988
Total	**28,132**	**45,855**	**160,873**	**160,130**	**1,143**	**662**	**65,792**	**75,420**
PAD District 4								
Colorado	—	256	492	623	—	—	—	3
Idaho	730	1,137	1,086	821	—	—	680	—
Montana	428	555	398	59	7,718	7,035	—	—
Utah	2,880	586	3,673	5,199	5,971	5,073	2,719	—
Wyoming	25	23	110	383	1,326	876	—	36
Total	**4,063**	**2,557**	**5,759**	**7,085**	**15,015**	**12,984**	**3,399**	**39**
PAD District 5								
Alaska	—	—	4,563	—	—	—	—	—
Arizona	—	—	711	249	—	—	2,666	3,393
California	34,667	32,327	53,290	98,460	18,912	18,234	670,511	372,937
Hawaii	99,499	138,498	5,379	5,192	34,803	28,331	490,802	522,447
Nevada	84	75	302	2,479	—	276	10,577	24,844
Oregon	11,128	11,362	17,492	15,575	—	116	—	—
Washington	2,068	3,035	68,649	78,097	9,508	9,882	—	—
Total	**147,446**	**185,297**	**150,386**	**200,052**	**63,223**	**56,839**	**1,174,556**	**923,621**
U.S. Total	**1,503,300**	**2,029,331**	**2,227,854**	**2,453,997**	**314,357**	**344,750**	**8,433,488**	**9,797,968**

— = No data reported.

...By End Use

Special note: The adjustment procedure for residual fuel oil has been changed this year. In previous years, estimates of vessel bunkering volumes were obtained from the Bureau of the Census report, "United States Foreign Trade, Bunker Fuels." This Census report has now been discontinued. In order to minimize disruption to the residual fuel oil adjusted sales data series, the Census data have been removed from prior years' estimates and the adjustment to equal products supplied is performed at the national level.

(Add 000 gal.)

	Vessel Bunkering		Military		All Other		Total	
Destination	1990	1989	1990	1989	1990	1989	1990	1989
PAD District 1								
Connecticut	924	314	1,952	3,097	70	—	632,244	892,289
Delaware	34,439	38,264	745	—	—	—	165,703	263,555
Dist. of Col.	—	—	96	2,115	—	—	8,703	7,698
Florida	382,842	342,592	6,440	7,460	49	—	2,377,869	2,286,405
Georgia	46,849	27,089	3,654	1,947	—	—	131,818	114,277
Maine	2,577	5,275	2,614	4,085	—	—	432,632	515,881
Maryland	52,191	85,369	15,886	23,688	—	—	426,853	611,755
Massachusetts	51,800	39,352	1,516	14,388	—	—	1,262,995	1,470,083
New Hampshire	—	—	2,615	1,049	—	—	222,716	263,890
New Jersey	275,502	384,702	8,318	2,892	—	—	735,325	1,167,462
New York	42,879	15,739	8,518	8,815	16	—	3,369,993	3,680,160
North Carolina	16,168	25,428	3,245	4,214	—	191	229,362	238,077
Pennsylvania	216,936	174,535	1,974	3,408	—	—	761,815	901,181
Rhode Island	—	618	1,096	2,850	—	—	53,058	67,049
South Carolina	19,557	23,821	149	6,343	—	—	94,562	117,869
Vermont	—	—	102	354	—	—	9,296	8,340
Virginia	118,399	109,027	9,657	4,149	—	—	352,372	480,507
West Virginia	—	—	—	—	—	—	49,795	45,453
Total	**1,261,063**	**1,272,125**	**68,577**	**90,854**	**135**	**191**	**11,317,111**	**13,131,931**
PAD District 2								
Illinois	2,009	2,459	—	—	67	—	138,840	180,018
Indiana	7,649	9,122	—	—	—	—	150,347	140,140
Iowa	—	—	5	10	—	—	4,878	7,900
Kansas	—	—	—	—	6	—	10,718	13,582
Kentucky	—	—	—	—	—	—	21,099	20,380
Michigan	3,608	4,969	—	—	65	57	115,907	172,640
Minnesota	—	67	—	—	—	119	37,685	45,750
Missouri	826	—	408	3,709	—	—	34,376	37,750
Nebraska	—	—	—	—	—	15	10,054	16,074
North Dakota	—	—	—	—	168	236	13,108	13,014
Ohio	201	415	—	—	—	—	66,895	98,650
Oklahoma	—	—	—	—	—	—	25,249	16,548
South Dakota	—	—	5	2	—	—	2,368	2,846
Tennessee	29	21	132	571	—	—	12,026	20,060
Wisconsin	64	172	—	—	—	—	43,569	44,398
Total	**14,386**	**17,225**	**550**	**4,292**	**306**	**427**	**687,119**	**829,750**
PAD District 3								
Alabama	108,534	120,534	3,287	1,229	—	—	153,073	158,172
Arkansas	—	—	—	—	—	—	8,996	15,950
Louisiana	853,968	1,040,465	—	—	—	—	907,855	1,121,148
Mississippi	60,200	51,836	—	—	—	—	145,244	150,092
New Mexico	—	—	—	—	—	—	5,560	8,136
Texas	1,016,141	1,121,603	—	—	—	—	1,077,344	1,164,235
Total	**2,038,843**	**2,334,438**	**3,287**	**1,229**	**—**	**—**	**2,298,072**	**2,617,733**
PAD District 4								
Colorado	—	—	—	—	—	—	492	881
Idaho	—	—	—	—	12	—	2,508	1,959
Montana	—	—	—	—	—	181	8,545	7,830
Utah	—	—	1,528	—	—	—	16,771	10,866
Wyoming	—	—	—	—	85	26	1,547	1,354
Total	**—**	**—**	**1,528**	**—**	**97**	**207**	**29,863**	**22,890**
PAD District 5								
Alaska	5,427	5,091	—	—	—	—	9,991	5,091
Arizona	—	—	—	—	—	—	3,377	3,642
California	2,129,514	2,115,093	—	—	—	—	2,906,894	2,637,052
Hawaii	99,054	93,260	4,332	3,647	28,189	28,427	762,059	819,802
Nevada	—	—	—	—	—	—	10,963	27,675
Oregon	145,321	204,643	35	—	64	—	174,041	231,773
Washington	554,485	579,224	3,684	5,235	—	—	638,395	675,472
Total	**2,933,801**	**2,997,311**	**8,051**	**8,882**	**28,253**	**28,457**	**4,505,720**	**4,400,507**
U.S. Total	**6,248,093**	**6,621,099**	**80,465**	**105,257**	**28,791**	**28,457**	**18,837,885**	**21,002,811**

— = No data reported.

How Distillates Were Used in 1990

(Add 000 gal.)

Use	1990	1989	% Change	% Share of Total Distillates Used in 1990	% Share of Total Distillates Used in 1989
Residential	6,022,902	7,501,096	(20.0)	13.0	15.5
Commercial	3,502,778	3,858,743	(9.2)	7.5	8.0
Industrial	2,452,322	2,565,293	(4.4)	5.2	5.3
Oil Company	968,764	845,217	12.0	2.1	1.7
Farm	3,293,792	3,196,928	2.9	7.1	6.6
Electric Utility	733,681	1,078,887	(31.9)	1.6	2.2
Railroad	3,210,111	3,264,229	(1.7)	6.9	6.7
Vessel Bunkering	2,197,004	2,356,444	(6.7)	4.7	4.9
On-Highway Diesel	21,360,477	21,131,692	1.1	46.0	43.7
Off-Highway Diesel	1,776,352	1,637,497	7.8	3.8	3.4
Military	784,401	928,316	(15.5)	1.7	1.9
All Other	2,541	29,106	(91.3)	0.1	0.1
U.S. Total	**46,305,126**	**48,393,450**	**(4.3)**		

Source: Energy Information Administration, Fuel Oil and Kerosine Sales 1990, October 1991.

How Residual Was Used in 1990

(Add 000 gal.)

Use	1990	1989	% Change	% Share of Total Residual Used in 1990	% Share of Total Residual Used in 1989
Commercial	1,503,301	1,650,418	(8.9)	7.9	7.3
Industrial	2,227,855	2,453,976	(9.2)	11.8	17.7
Oil Company	314,358	344,751	(8.8)	1.6	1.9
Elecric Utility	8,433,489	9,797,966	(13.9)	44.7	46.7
Railroad*	N/A	151	N/A	N/A	—
Vessel Bunkering	6,248,095	6,621,100	(5.6)	33.1	25.8
Military	81,902	105,255	(22.1)	0.4	0.5
All Other	28,791	29,312	(1.8)	0.2	0.1
U.S. Total	**18,837,882**	**21,002,814**	**(10.3)**		

*Removed as a category from the 1990 EIA Survey. Any volumes that would have appeared in this category are included in the All Other category.
Source: Energy Information Administration, Fuel Oil and Kerosine Sales 1990, October 1991.

How Kerosine Was Used in 1990

(Add 000 gal.)

Use	1990	1989	% Change	% Share of Total Kerosine Used in 1990	% Share of Total Kerosine Used in 1989
Residential	439,870	618,322	(28.9)	67.0	47.9
Commercial	95,737	349,566	(72.6)	14.6	27.1
Industrial	76,687	171,124	(55.2)	11.7	13.2
Farm	21,934	36,907	(40.6)	3.3	2.9
All Other	17,780	115,750	(84.6)	2.7	9.0
U.S. Total	**652,008**	**1,291,608**	**(49.5)**		

Source: Energy Information Administration, Fuel Oil and Kerosine Sales 1990, October 1991.

How New Homes Are Heated

Region	New Homes Completed (Add 000)	Share of New Homes by Fuel and Percentage Gas	Electric	Oil	Others
Northeast	127	45%	19%	34%	2%
Midwest	195	87	11	*	2
South	389	41	57	1	1
West	255	73	21	*	6
Total 1990	**966**	**59**	**33**	**5**	**3**
Total 1989	**1,026**	**58%**	**34%**	**5%**	**3%**

* Negligible.
Source: U.S. Dept. of Commerce, Characteristics of New Housing 1990, Current Construction Reports, June 1991.

Gas: Who Uses It for Heat

Region	% of Gas-Heated Homes to Total Gas-Using Homes	Consumers Added in 1990 (Add 000) New Homes	Existing Homes	Total Added
New England	71.3	12.0	28.6	40.6
Mid-Atlantic	66.3	50.7	59.3	110.0
East North Central	95.0	138.0	36.5	174.5
West North Central	97.5	29.7	12.8	42.5
South Atlantic	78.4	61.0	26.6	87.6
East South Central	86.2	24.2	12.3	36.5
West South Central	94.3	59.5	6.9	66.4
Mountain	92.3	52.6	11.1	63.7
Pacific	98.3	277.3	24.9	302.2
Total	**86.6**	**705.0**	**219.0**	**924.0**
% Change 1990 vs. 1989	—	**7.4**	**17.2**	**9.8**

Source: American Gas Assn., House Heating Survey 1990, Table 2.

1991 Gas Heat Equipment Shipments

Class and Type of Equipment	1991	1990	% Change
Central Heating:			
Furnaces	2,056,670	1,950,465	5.4
Boilers	183,903	204,004	(9.9)
Space Heating:			
Wall Furnaces			
Vented	147,320	150,930	(2.4)
RV Systems	N/A	N/A	—
Water Heaters:			
Gas	3,936,465	3,906,264	0.8
Electric	3,169,965	3,226,321	(1.7)
Oil (a)	28,000	36,000	—

(a) Estimated by fuel oil industry sources for comparison.
Source: Gas Appliance Manufacturers Assn., Statistical Highlights, December 1991.

Distillate Deliveries by Annual Use

(000 bbl.)

Year	Residential	Commercial	Industrial	Oil Company	Farm	Electric Utility	On-Highway Diesel	Other	Total
1990	143,402	83,399	58,389	23,066	78,424	17,460	508,583	189,771	1,102,503
1989	178,598	91,875	61,078	20,124	76,117	25,688	503,136	195,610	1,152,225
1988	182,430	98,454	63,325	20,765	81,445	19,050	520,488	157,554	1,142,511
1987	176,819	101,890	69,472	20,994	77,190	15,383	473,930	150,741	1,086,419
1986	173,686	102,217	63,907	17,857	80,477	14,628	467,280	143,686	1,063,740
1985	171,736	107,481	61,730	20,869	78,841	12,246	411,420	99,984	1,046,827
1984(a)	164,529	116,729	56,113	21,623	70,819	16,405	439,786	139,173	1,041,217
1983(a)	159,481	112,392	54,030	21,510	67,582	11,744	408,594	131,142	981,926
1982	180,760	75,669	71,340	29,482	68,453	12,134	375,124	164,253	974,864

(a) In 1984, Energy Information Administration revised its sampling procedures and adjusted some categories to reflect market volumes. Thus the 1984 and 1983 data may not be truly comparable to 1982 and the preceding years. Also, see special caveat at the top of the preceding page.

Source: Energy Information Administration, Fuel Oil and Kerosine Sales 1990, October 1991.

Residual Deliveries by Annual Use

(000 bbl.)

Year	Commercial	Industrial	Oil Company	Electric Utility	Railroad(a)	Vessel Bunkering	Military	Other	Total
1990	35,793	53,044	7,485	200,797	—	148,764	1,916	686	448,521
1989(b)	48,317	58,429	8,208	233 285	4	157,645	2,506	678	500,067
1988	42,589	91,787	10,317	227,164	1	124,976	3,269	4,173	504,276
1987	42,013	90,723	11,967	181,712	7	125,221	4,549	5,316	461,504
1986	35,595	106,962	18,239	215,276	14	125,889	4,308	7,434	517,717
1985	31,592	95,509	18,477	147,381	147	130,323	4,593	10,962	438,840
1984(a)	33,777	94,375	27,680	186,318	43	135,408	5,291	18,307	501,199
1983(a)	93,624	93,624	28,604	204,238	47	136,290	5,411	14,412	518,604
1982	122,619	122,619	45,319	227,419	170	152,586	7,829	4,784	626,510

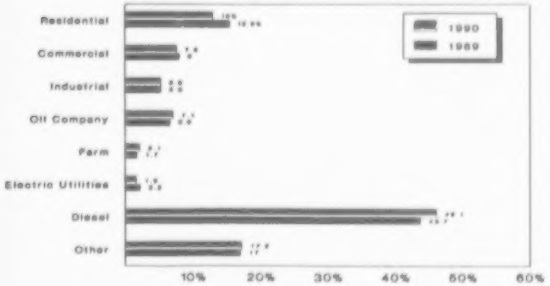
(a) See Footnote (a) in distillate summaries above.

(b) Revised.

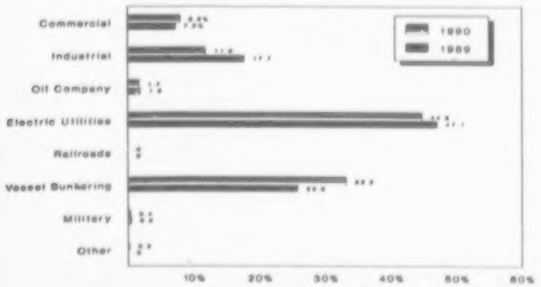
(c) Residual fuel oil for Railroad use was removed as a category in 1990. Any volumes that would have appeared in this category are included under All Other.

Source: Energy Information Administration, Fuel Oil and Kerosine Sales 1990, October 1991.

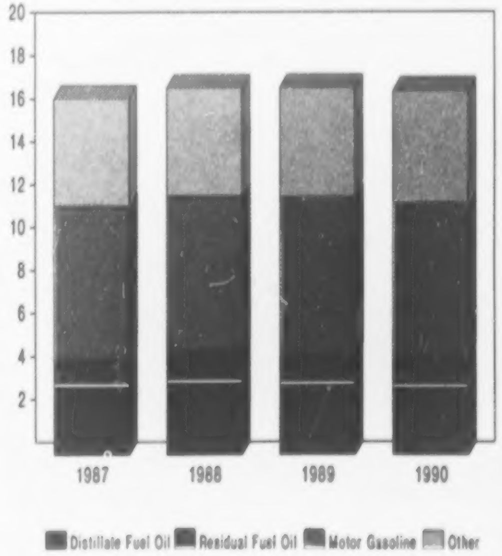
Distillate Deliveries by Use as % of Total



Residual Deliveries by Use as % of Total



Fuel Oil Demand vs. Other Products

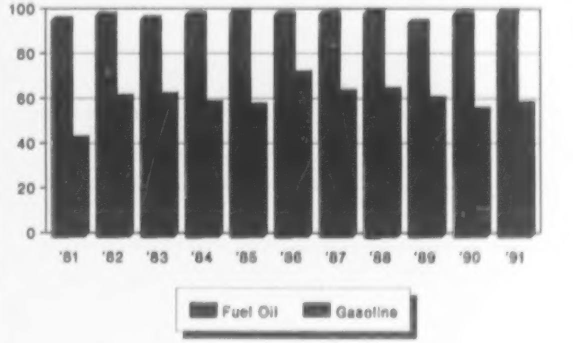


Sources of Business Income

(% of total business income)

Region	FUEL OIL Retail Primary	FUEL OIL Retail Secondary	FUEL OIL Bulk Primary	FUEL OIL Bulk Secondary	GASOLINE Retail Primary	GASOLINE Retail Secondary	GASOLINE Bulk Primary	GASOLINE Bulk Secondary
New England	100.0	—	2.4	12.2	4.9	2.4	2.4	4.9
Mid-Atlantic	100.0	—	2.4	9.8	12.2	7.3	9.8	14.6
South	70.6	20.6	32.4	23.5	55.9	11.8	29.4	20.6
Midwest............	68.3	17.1	51.2	26.8	61.0	24.4	58.5	14.6
West..................	63.4	12.2	46.3	19.5	34.1	22.0	53.7	7.3
All Sections	**80.5**	**10.0**	**26.9**	**18.4**	**33.6**	**13.6**	**30.8**	**12.4**

Percentage of Marketers Selling Fuel Oil & Gasoline 1981 – 1991



Petroleum Revenue as a Percent of Total Business Income

Region	%
New England	77.9
Mid-Atlantic	80.4
South	80.3
Midwest	74.9
West	90.1
All Sections	**79.7**

Average Drop in Gallons

Region	275 - gal. Tanks	550 - gal. Tanks
New England	174.5	349.6
Mid-Atlantic	190.3	347.9
South	177.3	350.2
Midwest	169.8	370.0
West	178.2	360.6
All Sections	**178.0**	**355.7**

The Gas Threat

Region	% Saying Gas a Major Threat	% Losing Customers
New England	56.1	73.2
Mid-Atlantic	56.1	82.9
South	75.0	100.0
Midwest	91.7	100.0
West	68.8	81.3
All Sections	**69.5**	**87.5**

Region	% Taking Steps to Combat	% Making Gas Conversion
New England	43.9	12.2
Mid-Atlantic	65.9	31.7
South	62.5	25.0
Midwest	50.0	16.7
West	75.0	18.8
All Sections	**59.5**	**20.9**

Average Size of Business

Region	Home Fuel Oil Accts	No. of C/I Accts	Gal. of Distillate	Gal. of Residual	Gal. of Gasoline	No. of Empl.
New England	1,514	121	1,948,276	1,480,000	1,500,000	9.4
Mid-Atlantic	1,900	273	1,686,094	638,333	3,302,909	12.1
South	939	87	2,408,000	578,800	2,951,500	8.5
Midwest............	559	190	1,239,516	ID	1,591,400	11.6
West..................	1,597	249	2,328,438	878,000	3,548,269	10.7
All Sections	**1,302**	**184**	**1,922,065**	**893,783**	**2,578,816**	**10.5**

ID – Insufficient Data.

Retail Gasoline Outlets and Volume

Region	Avg. No.	Less Than 50,000*	50,000 - 100,000*	100,000 +*
New England........	ID	ID	ID	ID
Mid-Atlantic..........	6.0	50.0	25.0	25.0
South.....................	6.2	53.8	30.8	15.4
Midwest................	2.8	47.1	35.3	17.6
West......................	2.3	42.9	42.9	14.3
All Sections.........	**4.3**	**48.5**	**33.5**	**18.1**

* Percent reporting such volume in gal. per month.
ID – Insufficient Data.

Source: All data on pages 66, 67, 68, 69, Fuel Oil News, December 1991.

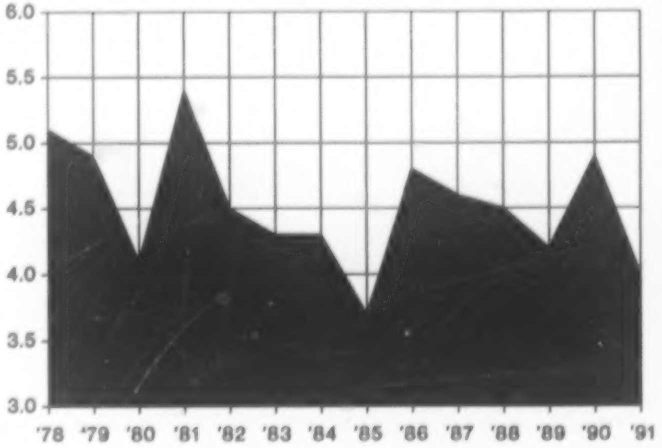
Average Age of Trucks

Region	Year of Oldest	Year of Newest
New England	1979.5	1986.8
Mid-Atlantic	1976.7	1987.5
South	1974.6	1986.2
Midwest	1978.2	1986.5
West	1974.7	1985.6
All Sections	**1976.7**	**1986.5**

Percent Buying This Year

Region	New Truck	New Tank
New England	19.4	5.6
Mid-Atlantic	25.0	1.0
South	28.6	28.6
Midwest	24.4	17.1
West	41.5	14.6
All Sections	**27.8**	**13.4**

Average Number of Delivery Trucks Per Marketer 1981 – 1991



Trucks Per Marketer

Region	Average No. Delivery Trucks	Average No. Trailers	Average Size (in gal.) Largest	Average Size (in gal.) Smallest	Opt. Size Preferred
New England	3.3	0.4	2,916	2,424	2,841
Mid-Atlantic	4.4	2.7	3,089	2,571	3,029
South	4.4	2.4	2,226	1,715	2,114
Midwest............	3.1	2.0	2,236	1,874	2,284
West.................	4.7	2.6	3,060	1,990	2,608
All Sections	**4.0**	**2.0**	**2,714**	**2,115**	**2,575**

Truck Tanks by Type

Region	USE Steel	USE Alum	USE Both	PREFER Steel	PREFER Alum
New England	15.8	42.1	39.5	13.2	76.3
Mid-Atlantic	15.0	35.0	50.0	5.0	77.5
South	50.0	6.7	43.3	26.7	46.7
Midwest............	68.3	4.9	17.1	31.7	26.8
West.................	32.4	18.9	48.6	24.3	59.5
All Sections	**36.3**	**21.5**	**39.7**	**20.2**	**57.4**

Trends in Equipment Sales Past 12 Months

(% of dealers reporting)

Region	Residential Up	C/I Up
New England	29.7	31.6
Mid-Atlantic	39.0	2.4
South	ID	ID
Midwest	55.6	0.1
West	50.0	12.5
All Sections	**43.6**	**11.7**

ID – Insufficient Data.

Computer Applications (% of marketers using EDP for listed operations)

Application	New England	Mid-Atlantic	South	Midwest	West	All Sections
Accts Rec/Billing	78.1	91.2	94.1	76.9	88.5	85.8
General Ledger	56.3	79.4	88.2	84.6	76.9	77.1
Accts Payable	56.3	70.6	82.4	69.2	76.9	71.1
Excise Tax	43.8	50.0	64.7	50.0	65.4	54.8
Word Processing	56.3	67.6	47.1	42.3	53.8	53.4
Delivery Sched	68.8	76.5	58.8	26.9	34.6	53.1
Payroll	28.1	50.0	52.9	46.2	69.2	49.3
Inventory Recon	40.6	38.2	58.8	69.2	38.1	49.0
Fixed Assets	31.3	32.4	70.6	38.5	38.5	42.3
Pricing Analysis	31.3	8.8	23.5	23.1	30.8	23.5
Supplier Costs	9.4	26.5	41.2	15.4	23.1	23.1
Oil Price Info	9.4	26.5	17.6	19.2	23.1	19.2
Comm w/Stations	3.1	8.8	11.8	15.4	42.3	16.3

Fuel Oil/Profiles

Dealers Operating Bulk Plants (in %)

	With Bulk Plants	Bulk Plants Storing Other Prod
New England	39.0	68.8
Mid-Atlantic	51.2	57.1
South	80.0	89.3
Midwest	87.8	91.7
West	80.5	81.8
All Sections	**67.7**	**77.7**

Dealers Trading on the Oil Futures Market

Region	Percentage
New England	65.9
Mid-Atlantic	34.1
South	5.7
Midwest	4.9
West	*
All Sections	**22.1**

* – Less than 0.1%.

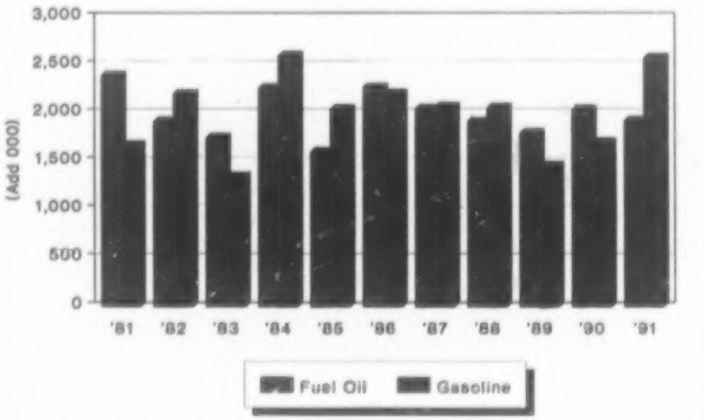
Dealers Using Additives (%)

Region	Using Additives	Blended at Bulk plant
New England	51.2	23.8
Mid-Atlantic	46.3	10.5
South	28.6	*
Midwest	70.7	34.5
West	51.2	33.3
All Sections	**49.6**	**20.4**

Region	Blended on Trucks	Blended in Cust Tanks
New England	33.3	52.4
Mid-Atlantic	36.8	57.9
South	30.0	70.0
Mid-West	62.1	24.1
West	52.4	61.9
All Sections	**42.9**	**53.3**

* - Less than 0.1%

Average Marketer Volume in Gals. of Fuel Oil & Gasoline 1981 – 1991



Percent of Fuel Oil Dealers Who Sell, Install and/or Service All Types of HVAC Equipment

New England	90.2
Mid-Atlantic	97.6
South	31.6
Midwest	22.0
West	39.0
All Sections	**56.1**

Percent of Fuel Oil Dealers Who Sell, Install and/or Service Selected HVAC Equipment

RESIDENTIAL

Region	Oil Burners	Gas Burners	Domestic Hot Water	Boilers	Hydronic Systems	Unitary Air Conditioning	Electric Resistance	Insulation	Solar
New England	100.0	48.6	81.1	78.4	54.1	32.4	*	2.7	2.7
Mid-Atlantic	97.6	41.5	87.8	85.4	68.3	31.7	14.6	4.9	9.8
South	100.0	37.5	62.5	37.5	*	12.5	12.5	25.0	*
Midwest.............	77.8	44.4	66.7	44.4	11.1	33.3	11.1	*	*
West..................	100.0	43.8	50.0	62.5	31.3	12.5	*	*	6.3
All Sections	**95.1**	**43.2**	**69.6**	**61.6**	**33.0**	**24.5**	**7.6**	**6.5**	**3.8**

COMMERCIAL

Region	Oil Burners	Gas Burners	Domestic Hot Water	Boilers	Hydronic Systems	Unitary Air Condition	Electric Resistance	Insulation	Solar
New England	73.0	27.0	64.9	45.9	37.8	8.1	*	*	*
Mid-Atlantic	63.4	29.3	43.9	51.2	31.7	7.3	2.4	2.4	2.4
South	62.5	25.0	37.5	25.0	*	12.5	12.5	12.5	*
Midwest.............	11.1	22.2	*	22.2	11.1	*	*	*	*
West..................	75.0	31.3	43.8	43.8	25.0	6.3	*	*	6.3
All Sections	**57.0**	**30.0**	**38.0**	**37.6**	**21.1**	**6.8**	**3.0**	**3.0**	**1.7**

* — Less than 0.1%.

Petroleum Products Sold (% of total volume)

Region	No. 2	No. 1	No. 4	Nos. 5&6	No. 2 for Diesel	Gasoline	Lpg/Lng	Other
New England	86.4	4.3	1.6	1.6	7.7	2.4	1.0	0.7
Mid-Atlantic	76.1	4.4	*	*	8.7	11.2	*	*
South	37.9	12.2	6.7	*	22.2	31.2	1.8	*
Midwest................	31.4	5.6	0.3	*	20.9	33.2	5.4	0.2
West.....................	29.3	5.8	*	0.5	26.9	33.0	2.6	1.6
All Sections	**52.2**	**6.5**	**1.7**	**0.4**	**17.3**	**22.2**	**2.2**	**0.5**

* – Less than 0.1%

Average Number of Units Installed in Past 12 Months

RESIDENTIAL

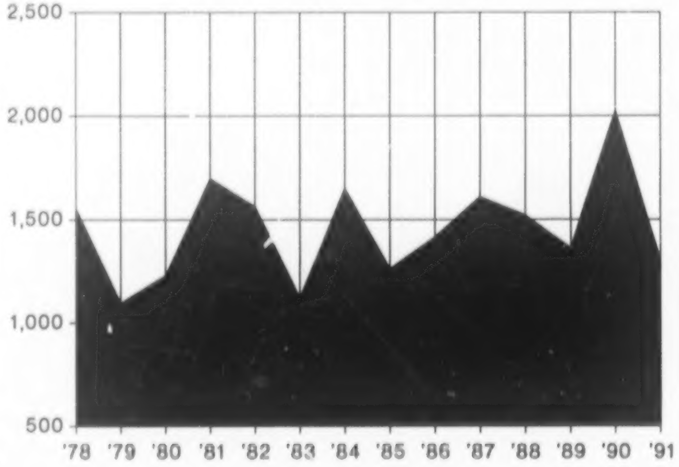
Region	Burners	Boilers	Furn
New England	22.2	23.2	11.8
Mid-Atlantic	13.7	22.7	12.8
South	8.7	2.3	48.0
Midwest	3.0	8.0	33.6
West	17.0	18.8	18.4
All Sections	**12.9**	**15.0**	**24.9**

COMMERCIAL

Region	Burners	Boilers	Furn
New England	3.6	3.0	1.0
Mid-Atlantic	7.3	3.8	3.0
South	ID	ID	ID
Midwest	ID	ID	ID
West	3.0	1.2	3.0
All Sections	**4.6**	**2.7**	**2.3**

ID – Insufficient Data

Average Number of Residential Fuel Oil Customers 1978 – 1991



Percent of Fuel Oil Dealers Who Sell, Install and/or Service Selected HVAC Equipment (Continued)

RESIDENTIAL

Region	Furnaces	Warm Air Systems	Central Air Condition	Heat Pump	Cont Air Circ
New England.....	97.3	83.8	27.0	8.1	2.7
Mid-Atlantic	95.1	78.0	53.1	26.8	7.3
South.................	100.0	75.0	50.0	12.5	*
Midwest.............	66.7	55.6	44.1	11.1	11.1
West..................	93.8	62.5	18.8	12.5	12.5
All Sections......	**90.6**	**71.0**	**38.7**	**14.2**	**6.7**

COMMERCIAL

Region	Furnaces	Warm Air Systems	Central Air Conditioning	Heat Pump
New England.....	64.9	40.5	*	*
Mid-Atlantic	51.2	41.5	22.0	14.6
South.................	37.5	25.0	37.5	12.5
Midwest.............	11.1	*	11.1	*
West..................	68.8	50.0	25.0	12.5
All Sections......	**46.7**	**31.4**	**19.1**	**7.9**

* – Less than 0.1%

Top 10 Importers of Crude and Product, 1990 (a)

CRUDE OIL AND PRODUCT

Company	Headquarters	Volume (000-b/d)	Percent of U.S. Total
Chevron	San Francisco	725	9.11%
Star	Houston	621	7.81
Exxon	New York	483	6.07
Amoco	Chicago	475	5.97
Sun	Philadelphia	379	4.76
Shell	Houston	373	4.69
Mobil	Fairfax, Va.	336	4.22
BP America	Cleveland	305	3.83
Amerada Hess	New York	295	3.71
Coastal	Houston	286	3.60
Total Top 10		**4,278**	**53.78**
Total U.S.		**7,954**	

DISTILLATE FUEL OIL

Company	Headquarters	Volume (000-b/d)	Percent of U.S. Total
Amerada Hess	New York	64	23.10%
Cargill	Minneapolis	32	11.55
Global Petro	Waltham, Mass.	26	9.39
Coastal	Houston	21	7.58
Axel Johnson	New York	13	4.69
Northville	Melville, N.Y.	13	4.69
G.E. Warren	Vero Beach, Fla.	13	4.69
Citgo	Tulsa	9	3.25
Aron J & Co.	New York	7	2.53
Astroline	Reading, Mass.	7	2.53
Total Top 10		**205**	**74.01**
Total U.S.		**277**	

CRUDE OIL ONLY

Company	Headquarters	Volume (000-b/d)	Percent of U.S. Total
Chevron	San Francisco	655	11.15%
Star	Houston	610	10.38
Amoco	Chicago	454	7.73
Shell	Houston	352	5.99
Exxon	New York	325	5.53
Sun	Philadelphia	315	5.36
Mobil	Fairfax, Va.	309	5.26
BP America	Cleveland	270	4.59
U.S. Steel	Pittsburgh	224	3.81
Koch	Wichita, Kan.	221	3.76
Total Top 10		**3,735**	**63.56**
Total U.S.		**5,876**	

RESIDUAL FUEL OIL

Company	Headquarters	Volume (000-b/d)	Percent of U.S. Total
Amerada Hess	New York	93	18.4%
Coastal	Houston	49	9.72
Vitol S.A.	Houston	42	8.33
Chevron	San Francisco	40	7.94
Clarendon Marketing	Stamford, Conn.	36	7.14
Global Petro	Waltham, Mass	34	6.75
Clark Trading	Clayton, Mo.	24	4.76
BP America	Cleveland	21	4.17
Solomon Inc.	Greenwich, Conn.	18	3.57
Sun	Philadelphia	17	3.37
Total Top 10		**374**	**74.21**
Total U.S.		**504**	

FINISHED MOTOR GASOLINE

Company	Headquarters	Volume (000-b/d)	Percent of U.S. Total
Amerada Hess	New York	46	13.94%
Getty	Jericho, N.Y.	31	9.39
Bear Stearns	New York	21	6.36
Mobil	Fairfax, Va.	21	6.36
Citgo	Tulsa	20	6.06
Cumberland Farms	Canton, Mass.	19	5.76
C Itoh (Amer)	Houston	16	4.85
Coastal	Houston	15	4.55
Texport	Houston	15	4.55
Global Petro	Waltham, Mass.	14	4.24
Total Top 10		**218**	**66.06**
Total U.S.		**330**	

JET FUELS

Company	Headquarters	Volume (000-b/d)	Percent of U.S. Total
Amerada Hess	New York	21	20.39%
Citgo	Tulsa	14	13.59
BP America	Cleveland	11	10.68
United Airlines	Elk Grove, Ill.	9	8.74
Defense Fuel Supp. Ctr.	Alexandria, Va.	8	7.77
Texport	Houston	8	7.77
Cumberland Farms	Canton, Mass.	7	6.80
PanAm World Airways	New York	7	6.80
Texaco	White Plains, N.Y.	7	6.80
Mobil	Fairfax, Va.	5	4.85
Total Top 10		**97**	**94.17**
Total U.S.		**103**	

(a) New data not available at presstime.

Source: Energy Information Administration, Petroleum Supply Monthly, Special Report, March 1991.

U.S. Dependency on Crude & Product Imports, 1991

(000 b\d)

Year Quarter	Net Imports: Total From All Countries	Net Imports: From Arab OPEC Members	Net Imports: % From Arab OPEC	Net Imports: From All OPEC Members	Net Imports: % From All OPEC	U.S. Petroleum Petroleum Supplied	Net Imports as % of U.S. Petroleum Products Supplied: Total From All Countries	Net Imports as % of U.S. Petroleum Products Supplied: Total From Arab OPEC Members	Net Imports as % of U.S. Petroleum Products Supplied: Total From All OPEC Members
1991 Avg.	**6,575**	**2,048**	31.1	4,033	**61.3**	**16,641**	**39.5**	**12.3**	**24.2**
1st Qtr.	5,633	1,957	34.7	3,699	65.7	16,427	34.3	11.9	22.5
2nd Qtr.	7,083	2,253	31.8	4,259	60.1	16,319	43.4	13.8	26.1
3rd Qtr.	7,168	2,026	28.3	4,217	58.9	16,918	42.4	12.0	24.9
4th Qtr.	6,401	1,958	30.6	3,954	61.8	16,891	37.9	11.6	23.4
1990 Avg.	**7,161**	**2,243**	31.3	**4,285**	**59.8**	**16,988**	**42.2**	13.2	**25.2**
1st Qtr.	7,721	2,420	31.3	4,617	59.8	17,072	45.2	14.2	27.0
2nd Qtr.	7,733	2,245	29.0	4,397	56.9	16,952	45.6	13.2	25.9
3rd Qtr.	7,565	2,514	33.2	4,621	61.1	17,223	43.9	14.6	26.8
4th Qtr.	5,643	1,795	31.8	3,513	62.3	16,706	33.8	10.7	21.0
1989 Avg.	**7,202**	**2,128**	29.5	**4,124**	**57.3**	**17,325**	**41.6**	**12.3**	**23.8**
1988 Avg.	**6,587**	**1,837**	27.9	**3513**	**53.3**	**17,283**	**38.1**	**10.6**	**20.3**
1987 Avg.	**5,914**	**1,272**	21.5	**3,053**	**51.6**	**16,665**	**35.5**	**7.6**	**18.3**
1986 Avg.	**5,493**	**1,160**	21.3	**2,828**	**52.0**	**16,281**	**33.4**	**7.1**	**17.4**
1985 Avg.	**4,286**	**470**	11.0	**1,821**	**42.5**	**15,726**	**27.3**	**3.0**	**11.6**
1984 Avg.	**4,715**	**817**	17.3	**2,037**	**43.2**	**15,726**	**30.0**	**5.2**	**13.0**
1983 Avg.	**4,312**	**630**	14.6	**1,843**	**42.7**	**15,231**	**28.3**	**4.1**	**12.1**
1982 Avg.	**4,298**	**852**	19.8	**2,136**	**49.7**	**15,296**	**28.1**	**5.6**	**14.0**
1981 Avg.	**5,401**	**1,844**	34.1	**3,315**	**61.4**	**16,058**	**33.6**	**11.5**	**20.6**

Source: Energy Information Administration, Monthly Energy Review, Table 1.8, March 1992.

Petroleum Products Imported, 1989 – 1991

(000 b/d)

Year/Product	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1991												
Total Motor Gasoline	**284**	**142**	**280**	**431**	**575**	**408**	**260**	**420**	**333**	**243**	**348**	**245**
Finished Leaded	0	0	0	0	0	0	0	0	0	0	0	0
Finished Unleaded	227	106	235	371	528	371	232	385	320	236	318	216
Blending Components	57	37	45	60	48	37	28	35	13	6	30	29
Jet Fuel	67	44	65	73	87	64	67	72	65	59	37	42
Distillate Fuel Oil	190	138	206	258	185	209	153	167	221	206	245	252
Residual Fuel Oil	422	384	331	416	420	499	419	568	473	438	454	547
Other Petroleum Products (a)	800	638	540	673	842	680	865	728	858	767	931	664
1990 (b)												
Total Motor Gasoline	**488**	**474**	**346**	**380**	**648**	**507**	**520**	**357**	**316**	**216**	**316**	**280**
Finished Leaded	1	0	0	0	2	3	1	6	0	0	0	0
Finished Unleaded	416	411	270	328	583	373	431	307	253	192	259	263
Blending Components	71	63	76	52	63	131	89	44	62	24	57	16
Jet Fuel	163	158	120	103	119	125	90	83	81	71	93	82
Distillate Fuel Oil	505	357	281	308	209	527	236	293	226	190	238	239
Residual Fuel Oil	825	663	335	559	507	485	536	574	313	383	387	484
Other Petroleum Products (a)	1,004	852	766	694	897	949	801	885	761	725	884	743
1989												
Total Motor Gasoline	**383**	**541**	**451**	**456**	**408**	**427**	**438**	**413**	**406**	**450**	**475**	**381**
Finished Leaded	4	5	3	12	5	6	1	0	0	0	0	0
Finished Unleaded	349	418	378	358	351	380	381	360	320	389	406	306
Blending Components	30	118	70	85	52	41	56	53	87	61	69	75
Jet Fuel	101	120	101	127	120	124	113	90	95	74	91	115
Distillate Fuel Oil	346	331	439	301	290	233	334	254	249	261	307	324
Residual Fuel Oil	909	877	706	681	538	533	556	501	454	583	543	680
Other Petroleum Products (a)	855	859	724	763	693	685	713	736	770	747	755	615

(a) Includes kerosine, unfinished oils, motor gasoline blending components, liquefied petroleum gases and other oils.

(b) Revised.

Source: Energy Information Administration, Weekly Petroleum Status Report, March 6, 1992.

Role of Imports in Domestic Demand

(000 bbl.)

	Total Imports			Domestic Demand for Refined Products			
Year	**Total (a)**	**b/d Avg.**	**% Change From Previous Year**	**Total**	**b/d Avg.**	**% Change From Previous Year**	**Imports as % of U.S. Demand**
1991	2,765,240	5,576	(30.5)	6,055,147(d)	16,589 (d)	(2.3)	45.6
1990 (b)	2,926,570	8,018	(0.5)	6,200,620	16,988	(2.0)	47.1
1989	2,942,265	8,061	8.9	6,323,625	17,325	0.2	46.5
1988	2,701,730	7,402	10.8	6,308,295	17,284 (b)	3.7	42.8
1987	2,437,470	6,678	7.3	6,082,725	16,665	2.3	40.1
1986	2,271,760	6,224	22.8	5,945,565	16,281	3.5	38.2
1985 (c)	1,849,455	5,067	(6.8)	5,739,990	15,726	—	32.2
1984	1,984,505	5,437	7.6	5,739,990	15,726	3.2	34.6
1983	1,843,615	5,051	(1.2)	5,559,315	15,231	(0.4)	33.2
1982	1,866,245	5,113	(14.7)	5,583,040	15,296	(4.7)	33.4
1981	2,188,540	5,996	(13.2)	5,861,170	16,058	(5.9)	37.3
1980	2,521,785	6,909	(18.3)	6,225,440	17,056	(7.9)	40.5
1979	3,086,440	8,456	1.1	6,757,245	18,513	(1.8)	45.7

(a) Crude oil and products, but not crude from Strategic Petroleum Reserve.

(b) Revised.

(c) Data for 1977-1985 are restated to reflect EIA information rather than other sources used in 1984.

(d) Preliminary.

Source: Energy Information Administration, Monthly Energy Review, March 1992, Table 3.1b; American Petroleum Institute, Basic Petroleum Data Book, Vol. XII, No. 1, Section VII, Table 2.

Crude and Imports by PAD District

PAD District 1

Total crude imports: 1,210,00 b/d
Major sources, crude: Saudi Arabia, Nigeria

Total product imports: 1,139,00 b/d
Products: Venezuela, Virgin Islands

	1991	1990 (a)	% Change 1991 vs. 1990	1989	1988	1987
Finished gasoline	272	295	(7.8)	334	351	324
Blending components	28	49	(42.9)	44	50	40
Unfinished oils	153	113	35.4	122	122	106
Liquefied petroleum gases	19	34	(44.1)	27	37	38
Distillates	185	263	(29.7)	284	270	221
Residual	373	450	(17.1)	566	556	516
Other products	109	133	(18.0)	115	120	90
Total Products	**1,139**	**1,337**	**(14.8)**	**1,492**	**1,506**	**1,335**
Crude Oil	1,210	1,179	2.6	1,195	1,164	1,109
Total Crude and Products	**2,349**	**2,516**	**(6.6)**	**2,687**	**2,670**	**2,444**

PADD 1 includes Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, West Virginia, North Carolina, South Carolina, Georgia and Florida.

PAD District 2

Total crude imports: 1,112,000 b/d
Major sources, crude: Canada, Saudi Arabia, Venezuela

Total product imports: 100,000 b/d
Products: Canada

	1991	1990 (a)	% Change 1991 vs. 1990	1989	1988	1987
Finished gasoline	9	6	50.0	5	4	4
Blending components	2	(s)	—	0	1	(s)
Unfinished oils	1	2	(50.0)	0	3	(s)
Liquefied petroleum gases	68	73	(6.8)	93	89	76
Distillates	10	6	66.7	8	6	8
Residual	2	2	0	4	4	6
Other products	8	9	(12.5)	7	21	8
Total Products	**100**	**98**	**2.0**	**117**	**128**	**102**
Crude Oil	1,112	1,116	(0.4)	1,048	923	860
Total Crude and Products	**1,212**	**1,214**	**(0.2)**	**1,165**	**1,051**	**962**

PADD 2 includes North Dakota, South Dakota, Nebraska, Kansas, Oklahoma, Minnesota, Iowa, Missouri, Wisconsin, Illinois, Michigan, Indiana, Ohio, Kentucky and Tennessee.

PAD District 3

Total crude imports: 3,207,000 b/d
Major sources, crude: Saudi Arabia, Mexico, Venezuela

Total product imports: 485,000 b/d
Products: Algeria, Venezuela

	1991	1990 (a)	% Change 1991 vs. 1990	1989	1988	1987
Finished gasoline	2	14	(85.7)	5	9	15
Blending components	5	10	(50.0)	13	7	7
Unfinished oils	244	285	(14.4)	217	224	169
Liquefied petroleum gases	39	60	(35.0)	45	61	53
Distillates	(s)	2	—	3	2	6
Residual	52	28	85.7	16	22	25
Other products	143	169	(15.4)	172	91	96
Total Products	**485**	**568**	**(14.6)**	**471**	**416**	**371**
Crude Oil	3,207	3,248	(1.2)	3,230	2,734	2,417
Total Crude and Products	**3,692**	**3,816**	**(3.2)**	**3,701**	**3,150**	**2,788**

PADD 3 includes Alabama, Arkansas, Louisiana, Texas and New Mexico.

PAD District 4

Total crude imports: 85,000 b/d
Major sources, crude: Canada

Total product imports: 15,000 b/d
Products: Canada

	1991	1990 (a)	% Change 1991 vs. 1990	1989	1988	1987
Finished gasoline	1	1	—	1	2	2
Blending components	0	0	0	0	0	0
Unfinished oils	0	0	0	0	0	0
Liquefied petroleum gases	8	6	33.3	7	12	12
Distillates	3	2	50.0	2	3	2
Residual	(s)	(s)	(s)	(s)	(s)	(s)
Other Products	3	4	(25.0)	(s)	1	2
Total Products	**15**	**13**	**15.4**	**10**	**18**	**18**
Crude Oil	85	74	14.9	67	63	64
Total Crude and Products	**100**	**87**	**14.9**	**77**	**81**	**82**

PADD 4 includes Montana, Idaho, Wyoming, Utah and Colorado.

PAD District 5

Total crude imports: 168,000 b/d
Major sources, crude: Indonesia

Total product imports: 55,000 b/d
Products: Canada

	1991	1990 (a)	% Change 1991 vs. 1990	1989	1988	1987
Finished gasoline	12	14	(14.3)	18	21	21
Blending components	(s)	1	—	1	1	14
Unfinished oils	7	3	133.3	7	2	4
Liquefied petroleum gases	2	5	(60.0)	6	10	11
Distillates	4	4	0	5	3	3
Residual	21	23	(8.7)	24	12	7
Other Products	9	13	(30.8)	28	19	14
Total Products	**55**	**63**	**(12.7)**	**89**	**68**	**74**
Crude Oil	168	258	(34.9)	266	175	189
Total Crude and Products	**223**	**321**	**(30.5)**	**355**	**243**	**263**

PADD 5 includes Arizona, Nevada, California, Oregon, Washington, Alaska and Hawaii.

All PAD Districts – U.S. Totals

Total crude imports: 5,782,000 b/d
Major sources, crude: Saudi Arabia, Mexico, Canada, Nigeria, Venezuela

Total product imports: 1,794,000 b/d
Products: Venezuela, Canada, Virgin Islands, Algeria

	1991	1990 (a)	1991 vs. 1990	% Change 1989	1988	1987
Finished gasoline	297	330	(10.0)	363	386	366
Blending components	35	61	(42.6)	59	58	61
Unfinished oils	405	404	2.0	346	351	280
Liquefied petroleum gases	136	187	(27.3)	179	210	190
Distillates	203	277	(26.6)	302	283	240
Residual	448	504	(11.1)	610	595	553
Other Products	270	317	(14.8)	332	251	210
Total Products	**1,794**	**2,078**	**(13.7)**	**2,191**	**2,134**	**1,900**
Crude Oil	5,782	5,876	(1.6)	5,808	5,059	4,639
Total Crude and Products	**7,576**	**7,954**	**(4.8)**	**7,999**	**7,193**	**6,539**

(a) Revised.
Source: Energy Information Administration, Petroleum Supply Monthly, Tables 34 and 40, February 1992.

World Crude Oil Production by Area

(000,000 bbl.)

Year (a)	United States	Canada	Latin America	Total Western Hemisphere	Western Europe	Middle East	Africa	Asia/ Pacific	C.I.S./ Eastern Europe (b)	Communist Nations	Total World
1990	2,685	565	2,467	5,737	1,400	5,992	2,176	2,259	4,151	N/A	21,175
1989	2,779	568	2,336	5,683	1,314	5,846	1,974	1,187	N/A	5,381	21,385
1988	2,979	589	2,303	5,871	1,389	5,297	1,829	1,148	N/A	5,511	21,045
1986	3,168	537	2,190	5,895	1,395	4,639	1,820	1,177	N/A	5,403	20,329
1984	3,250	516	2,316	6,082	1,332	4,128	1,714	1,165	N/A	5,333	19,754
1982	3,157	464	2,256	5,877	1,078	4,622	1,630	956	N/A	5,213	19,376

(a) As of January 1 of each year.

(b) Due to the political changes in the former Soviet Union (now the Commonwealth of Independent States [C.I.S.]) and Eastern Europe, the category Communist Nations has been discontinued. Beginning with 1990, all countries will be grouped by geographic regions rather than politcial ideology. Therefore, while the data for previous years have not changed, the table has been altered to reflect the new arrangement.

Source: *American Petroleum Institute, Basic Petroleum Data Book, Vol. XII, No. 1, Section IV, Table 1, January 1992.*

World Crude Oil Reserves by Area

(000,000 bbl.)

Year (a)	United States	Canada	Latin America	Total Western Hemisphere	Western Europe	Middle East	Africa	Asia/ Pacific	C.I.S./ Eastern Europe (b)	Communist Nations	Total World
1991	26,254	5,783	121,091	153,128	14,476	662,578	59,892	50,242	58,855	N/A	999,171
1990	26,501	6,134	125,027	157,661	18,822	660,247	58,837	22,545	N/A	84,100	1,002,213
1989	26,825	6,786	121,951	155,561	18,557	571,519	56,964	21,367	N/A	83,800	907,769
1988	27,256	6,825	114,332	148,413	22,448	364,680	55,250	19,354	N/A	79,200	689,345
1986	28,416	6,500	84,242	119,158	26,413	398,036	56,734	18,856	N/A	81,370	700,567
1984	27,735	6,730	81,676	116,141	23,020	370,101	56,907	18,969	N/A	84,600	669,738
1982	29,426	7,300	84,982	121,708	24,635	362,840	56,172	19,151	N/A	85,845	670,351

(a) As of January 1 of each year.

(b) Due to the political changes in the former Soviet Union (now the Commonwealth of Independent States [C.I.S.]) and Eastern Europe, the category Communist Nations has been discontinued. Beginning with 1991, all countries will be grouped by geographic regions rather than politcial ideology. Therefore, while the data for previous years have not changed, the table has been altered to reflect the new arrangement.

Source: *American Petroleum Institute, Basic Petroleum Data Book, Vol. XII, No. 1, Section II, Table 1, January 1992.*

World Crude Oil Refining Capacity by Area

(000 b/d)

Year (a)	United States	Other Western Hemisph.	Total Western Hemisph.	Western Europe	Middle East	Africa	Asia/ Pacific	Subtotal	C.I.S./ Eastern Europe (b)	Communist Nations	Total World
1991	15,559	9,436	24,995	14,224	5,021	2,872	12,603	59,714	14,927	N/A	74,642
1990	15,572	9,006	24,578	14,234	3,969	2,823	9,982	55,585	N/A	17,798	73,384
1989	15,557	8,839	24,396	13,859	4,335	2,787	10,065	55,441	N/A	17,798	73,240
1988	15,915	8,857	24,772	14,128	4,146	2,630	10,274	55,951	N/A	17,610	73,560
1986	15,459	8,614	24,073	14,072	4,274	2,520	10,112	55,050	N/A	17,500	72,551
1984	16,137	9,591	25,728	16,232	3,901	1,880	10,473	58,214	N/A	17,200	75,414
1982	17,890	10,720	28,610	19,445	3,312	1,762	10,967	64,095	N/A	16,533	80,629

(a) As of January 1 of each year.

(b) Due to the political changes in the former Soviet Union (now the Commonwealth of Independent States [C.I.S.]) and Eastern Europe, the category Communist Nations has been discontinued. Beginning with 1991, all countries will be grouped by geographic regions rather than politcial ideology. Therefore, while the data for previous years have not changed, the table has been altered to reflect the new arrangement.

Source: *American Petroleum Institute, Basic Petroleum Data Book, Vol. XII, No. 1, Section VIII, Table 1, January 1992.*

World Natural Gas Production by Area

(000,000,000 cu.ft.)

Year (a)	United States	Canada	Latin America	Total Western Hemisphere	Western Europe	Middle East	Africa	Asia/ Pacific	C.I.S./ Eastern Europe (b)	Communist Nations	Total World
1990	18,562	4,267	3,640	26,469	6,824	4,234	2,202	4,552	31,014	N/A	75,295
1989	18,045	4,161	3,552	25,758	6,726	3,646	2,892	4,380	N/A	30,951	74,353
1988	17,842	3,990	3,526	25,358	6,594	2,890	2,089	4,073	N/A	30,314	71,318
1986	16,791	3,168	3,414	23,373	6,520	1,823	1,662	3,321	N/A	27,088	63,787
1984	18,230	2,652	3,452	24,333	6,795	1,533	1,629	2,531	N/A	23,272	60,094
1982	18,520	2,546	3,072	24,137	6,142	1,800	1,169	2,177	N/A	20,258	55,684

(a) As of January 1 of each year.

(b) Due to the political changes in the former Soviet Union (now the Commonwealth of Independent States [C.I.S.]) and Eastern Europe, the category Communist Nations has been discontinued. Beginning with 1990, all countries will be grouped by geographic regions rather than politcial ideology. Therefore, while the data for previous years have not changed, the table has been altered to reflect the new arrangement.

Source: *American Petroleum Institute, Basic Petroleum Data Book, Vol. XII, No. 1, Section XIII, Table 4, January 1992.*

Crude Oil Reserves in 20 Leading Nations

	(Add 000 bbl.)			% of Total World		
Nation	**Jan. 1, 1991**	**Jan. 1, 1990**	**Jan. 1, 1989**	**1991**	**1990**	**1989**
Saudi Arabia (a)	257,504,000	254,959,000	169,970,000	25.8%	25.5%	18.7%
Iraq	100,000,000	100,000,000	100,000,000	10.0	10.0	11.0
United Arab Emirates	97,700,000	97,705,000	92,205,000	9.8	9.2	10.2
Kuwait (a)	94,525,000	94,525,000	91,920,000	9.5	9.4	10.1
Iran	92,850,000	92,860,000	92,850,000	9.3	9.3	10.2
Venezuela	59,040,000	58,504,000	58,083,900	5.9	5.8	6.4
C.I.S. (b)	57,000,000	58,400,000	58,500,000	5.7	5.8	6.4
Mexico	51,983,000	56,365,000	54,110,000	5.2	5.6	6.0
United States	26,254,000	26,501,000(c)	26,825,000	2.6	2.6	3.0
China	24,000,000	24,000,000	23,500,000	2.4	2.4	2.6
Libya	22,800,000	22,800,000	22,000,000	2.3	2.3	2.4
Nigeria	17,100,000	16,000,000	16,000,000	1.7	1.6	1.8
Indonesia	11,050,000	8,200,000	8,250,000	1.1	0.8	0.9
Algeria	9,200,000	9,200,000	8,400,000	0.9	0.9	0.9
India	7,997,100	7,516,400	6,354,000	0.8	0.7	0.7
Norway	7,609,412	11,546,204	10,435,000	0.8	1.2	1.1
Canada	5,782,949	6,133,495	6,785,514	0.6	0.6	0.7
Neutral Zone (a)	5,000,000	5,200,000	N.R.	0.5	0.5	N.R.
Qatar	4,500,000	4,500,000	N.R.	0.5	0.4	N.R.
Egypt	4,500,000	4,500,000	4,300,000	0.5	0.4	0.5
Total World	**999,113,472**	**1,002,212,623**	**907,767,751**	—	—	—

(a) Saudi Arabia and Kuwait share equally the production from the Neutral Zone located between the two nations. Neutral Zone reserves are not included in their figures, but are listed here separately.
(b) Commonwealth of Independent States (formerly U.S.S.R.)
(c) Revised figures.
N.R. – Not Ranked
Source: American Petroleum Institute, Basic Petroleum Data Book, Vol. XII, No. 1, Section II, Table 4, January 1992.

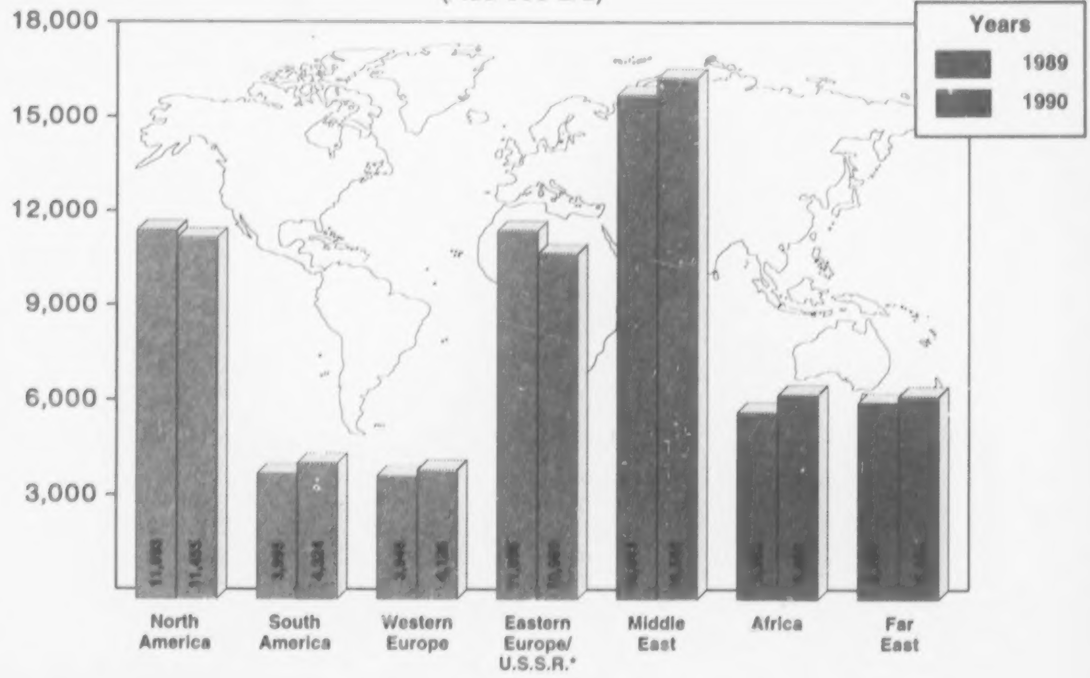
Crude Oil Production in 20 Leading Nations

	Add 000 bbl. 1990		Add 000 bbl. 1989		Add 000 bbl 1988		% of Total World		
Nation	**Total**	**b/d**	**Total**	**b/d**	**Total**	**b/d**	**1990**	**1989**	**1988**
C.I.S. (a)	4,015,000	11,000	4,227,065	11,581	4,357,230	11,938	18.5	19.8	20.7
United States (b)	2,684,687	7,355	2,778,773	7,613	2,979,123	8,162	12.4	13.0	14.2
Saudi Arabia (c)	2,294,755	6,287	1,789,960	4,904	1,876,848	5,142	10.6	8.4	8.9
Iran	1,122,740	3,076	1,043,170	2,858	835,944	2,290	5.2	4.9	4.0
China	1,010,685	2,769	1,009,225	2,765	1,003,572	2,750	4.7	4.7	4.8
Mexico	930,020	2,548	953,745	2,613	953,796	2,613	4.3	4.5	4.5
Venezuela	767,595	2,103	625,245	1,713	607,926	1,666	3.5	2.8	2.9
United Arab Emirates	752,630	2,062	686,930	1,882	551,196	1,510	3.7	2.6	2.6
Iraq	711,020	1,948	1,025,285	2,809	951,234	2,606	3.3	4.8	4.5
Nigeria	649,335	1,779	598,235	1,639	504,714	1,391	3.0	2.8	2.4
United Kingdom	617,580	1,692	598,600	1,640	789,462	2,163	2.8	3.7	3.8
Norway	584,730	1,602	528,155	1,447	404,430	1,108	2.7	2.5	1.9
Canada	565,020	1,548	567,575	1,555	588,894	1,613	2.6	2.7	2.8
Libya	492,750	1,350	400,040	1,096	385,764	975	2.3	1.9	1.8
Indonesia	455,885	1,249	444,205	1,217	424,194	1,162	2.1	2.1	2.0
Kuwait (c)	391,645	1,073	584,730	1,602	459,330	1,258	1.8	2.7	2.2
Egypt	319,375	875	310,980	852	310,368	850	1.5	1.5	1.5
Algeria	279,225	765	253,675	695	231,678	635	1.3	1.2	1.1
India	243,090	666	246,740	676	232,410	637	1.1	1.2	1.1
Oman	242,360	664	223,745	613	221,430	607	1.1	1.0	1.1
Total World	**21,714,692**	**59,411**	**21,386,810**	**58,594**	**21,032,556**	**57,623**	—	—	—

(a) Commonwealth of Independent States (formerly U.S.S.R.)
(b) Includes lease condensate.
(c) Excluding Neutral Zone production.
Source: American Petroleum Institute, Basic Petroleum Data Book, Vol. XII, No. 1, Section IV, Table 2, January 1992.

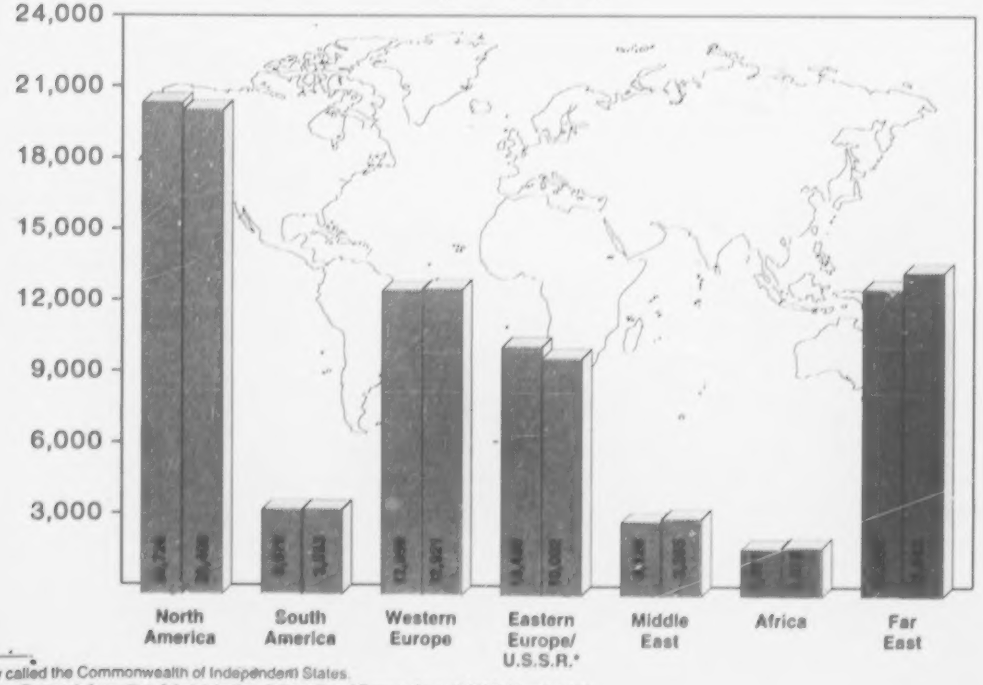
World Crude Oil Production, 1989 – 1990

(Add 000 b/d)



World Petroleum Consumption, 1989 – 1990

(Add 000 b/d)



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* Now called the Commonwealth of Independent States.

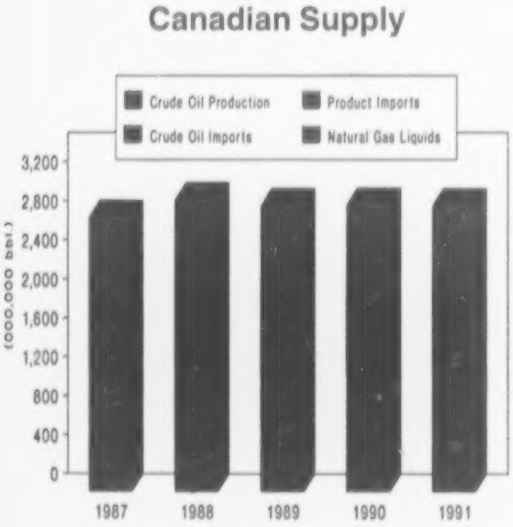
Source: Energy Information Administration, International Energy Annual 1990, March 1991.

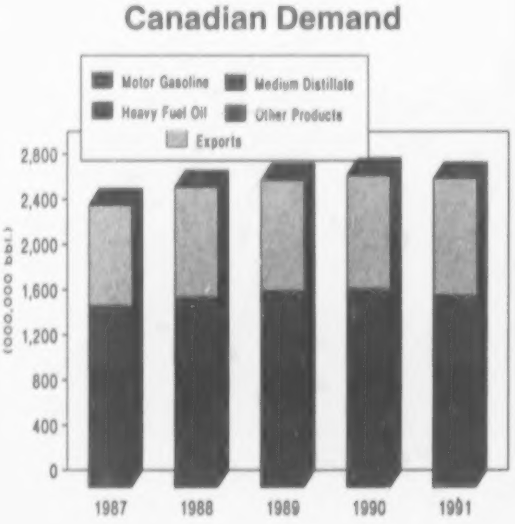
Canadian Refined Sales Taper Off

All things considered, basic supply and demand factors for Canada weren't too bad when 1991's production and consumption figures are added up. The relatively rosy totals, of course, tend to obscure the soft market conditions (recession, low demand, etc.) that began to kick in last year, nor do they predict the continuing softness in Canada's oil industry extending into 1992.

In fact, Canadian oil output and consumption both set new records in 1991. Demand for gasoline, distillates, heavy fuel oil, exports and other products was up 2% to 1.03-billion bbl. over the previous year. The increase in Canadian oil exports (up 12%) was particularly impressive. On the supply side, crude oil and NGL production and crude and product imports were up slightly under 1% to 938-million bbl.

Refined product sales in Canada provide a more sobering picture of the country's oil market. According to Statistics Canada, sales in all categories of products were down in 1991. Demand for aviation fuels and heavy fuel oil was particularly hard hit last year.


Canadian Supply


Canadian Demand

Refined Product Sales, 1991

(Cubic Meters) (a)

Province	Aviation Gas	Motor Gas	Aviation Turbine	Kerosine	Diesel	Light Fuel	Heavy Fuel	Lubes & Greases
Newfoundland	2,855	584,853	290,024	31,232	510,177	290,779	484,374	10,399
Prince Edward Island	299	184,110	4,197	10,573	95,360	152,014	31,318	2,199
Nova Scotia	1,564	1,061,952	193,681	47,920	586,333	795,387	1,172,662	15,998
New Brunswick	2,245	939,036	33,312	19,230	608,745	456,621	1,844,230	20,726
Quebec	19,893	6,878,305	820,933	209,495	2,829,063	1,853,738	2,149,631	141,838
Ontario	28,621	12,323,111	1,312,315	109,944	4,032,150	1,627,033	1,091,932	401,274
Manitoba	12,260	1,396,978	168,589	56,156	786,066	46,293	73,484	26,492
Saskatchewan	8,375	1,641,334	78,357	26,533	1,209,795	48,517	28,397	39,511
Alberta	12,277	4,203,121	579,987	23,105	2,586,559	49,042	60,353	102,780
British Columbia	27,686	3,627,459	927,686	54,791	2,559,150	389,519	1,110,052	102,875
Yukon	3,339	55,845	4,539	4,965	71,245	26,963	170	826
Northwest Territories	5,249	38,272	75,884	63,271	114,943	65,704	10,184	1,477
Total 1991	**124,663**	**32,934,376**	**4,489,493**	**657,215**	**15,989,586**	**5,801,610**	**8,056,787**	**866,395**
Total 1990	**164,299**	**33,942,976**	**5,001,978**	**688,479**	**16,826,482**	**6,416,151**	**9,650,307**	**933,642**

(a) To convert to bbl., multiply cubic meters by 6.2886.
(b) Revised.
Source: Statistics Canada.

Canadian Oil Companies:

Branded Service Stations

Company	Total branded retail outlets	Number of provinces where marketed	Supplied directly	Supplied through jobbers & commission agents	Lessee/dealer operated	Salary operated	Commission operated	Full-serve only	Self-serve only	Full-serve/ Self-serve
C. Corp. Inc.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
C. Corp. (Ontario) Inc.	68	1	68	—	3	—	65	33	24	2
Canadian Tire Petroleum Div.	202	7	202	0	18	184	—	14	186	2
Canadian Turbo Inc.	328	6	254	28	59	10	213	279	3	0
Chevron Canada Ltd.	250	1	225	25	125	—	100	77	129	44
Esso Petroleum Canada	3,980	9	—	—	602	86	918	2660	1162	158
Fas Gas Oil Ltd.	150	3	150	—	—	—	150	—	—	—
Federated Cooperatives Ltd.	658	5	658	—	—	634	24	440	218	—
Husky Oil Marketing Co.	334	6	245	21	245	—	—	177	89	—
Les Petroles Calex Ltee	45	2	—	—	—	—	45	—	15	30
Mohawk Oil Co. Ltd.*	266	6	268	—	119	41	106	142	44	80
Petro-Canada Products	2,950	11	—	—	—	—	—	2,086	895	166
Shell Canada Ltd.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sunoco Inc.	711	6	711	—	297	78	336	523	174	14
Sunys Petroleum Inc.	206	2	206	0	68	0	138	196	10	—
Ultramar Canada Inc. (a)	1,447	6	—	—	1,447	—	—	1,155	213	22

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* Does not include subsidiaries.

(a) Does not include the McCall-Frontenac Inc. acquistion in the Maritime Provinces.

Branded Retail Outlets in Canada

Company	Total branded retail outlets	Number of Provinces	Newfoundland	Nova Scotia	New Brunswick	Quebec	Ontario	Prince Edward Island	Manitoba	Saskatchewan	Alberta	British Columbia	Northwest Territories	Yukon
C. Corp. Inc.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
C. Corp. (Ontario) Inc.	68	1	0	0	0	0	68	0	0	0	0	0	0	0
Canadian Tire Petroleum Div.	202	7	0	0	5	42	127	0	6	4	14	4	0	0
Canadian Turbo Inc.	328	6	0	0	0	0	1	0	22	68	185	51	1	0
Chevron Canada Ltd.	250	1	0	0	0	0	0	0	0	0	0	250	0	0
Esso Petroleum Canada	3,980	9	184	143	151*	853	1,136	0	281	347	457	428	0	0
Fas Gas Oil Ltd.	150	3	0	0	0	0	0	0	0	35	103	12	0	0
Federated Coop. Ltd. /Coop	376	4	0	0	0	0	0	0	68	225	52	31	0	0
Federated Coop. Ltd./Tempo	282	5	0	0	0	0	23	0	78	103	29	49	0	0
Husky Oil Marketing Co.	334	6	0	0	0	0	49	0	22	35	133	91	0	4
Les Petroles Calex Ltee	45	2	0	0	0	40	5	0	0	0	0	0	0	0
Mohawk Oil Co. Ltd.	266	6	0	0	0	0	3	0	27	32	102	99	0	3
Petro-Canada Products	2,950	11	33	97	89	680	1,137	17	133	117	286	353	—	8
Shell Canada Ltd.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sunoco Inc.	711	6	0	0	1	224	472	0	2	0	5	7	0	0
Sunys Petroleum Inc.	206	2	0	0	0	31	175	0	0	0	0	0	0	0
Ultramar Canada Inc.	1447	6	237	146	95	827	120	22	0	0	0	0	0	0

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*Total includes PEI

Source: NPN Questionnaires.

How Distribution is Organized

Branded Jobers/Commission Agents				Bulk Plants				Terminals			
	Selling...				Company Operated						
Total	Gasoline only	Fuel Oil only	Gasoline and Fuel Oil	Total	Commission operated	Jobber operated	Salary operated	Total	Salary operated	Commission operated	Jobber operated
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
65	56	—	—	0	—	—	—	0	—	—	—
0	—	—	—	0	—	—	—	0	—	—	—
48	0	0	48	40	37	2	1	1	1	0	0
136	133	—	3	37	37	0	0	2	2	0	0
452	—	—	452*	544	476	48	20	53	—	—	—
150	—	—	—	—	—	—	—	—	—	—	—
3	—	—	3	195	3	—	192	—	—	—	—
21	—	—	21	0	—	—	—	0	—	—	—
—	—	—	—	—	—	—	—	1	—	—	—
N/A	—	—	—	N/A	—	—	—	N/A	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
336	336	0	0	3	0	0	—	5	5	0	0
138	74	0	64	—	—	—	—	—	—	—	—
62	0	0	62	101	—	—	—	26	14	12	0

Brand Names of Gasoline and Motor Oils

Gasoline	Motor Oil
C Corp Inc.	
Shell Sunoco Petro Canada Esso Ultramar Texaco	Top Value Winks Express
Canadian Tire Petroleum	
Motomaster Performance	Nugolo Supreme Formula 2000
Canadian Turbo, Inc.	
Turbo (ur,up,usp)	Flo-Rite Turbo Red Ram Green-Flo
Chevron Canada Ltd.	
Chevron (ur,up,usp)	Chevron Special Chevron Supreme Chevron Delo Chevron Re-refined
Esso Petroleum Canada	
Esso (ur,usp,d,extra)	Protec Extra Protec Ultra

Gasoline	Motor Oil
Fas Gas Oil Ltd.	
(ur,up)	Hi-Performance
Federated Cooperatives Lrd.	
Sonic (ur,up,usp) Tempo (ur,usp,p)	Sonic Silver Sonic Gold Sonic Green Coop D-M0 Coop HD-7
Husky Oil Marketing Co.	
Husky (r,ur,up)	Husky Stratolube Husky Strato Plus
Mohawk Oil Co. Ltd.	
Mohawk (r,ur,up)	Canadian Pride Mohawk Oil Spartan
Petro-Canada Products, Inc.	
(r,ur,up,us,o)	Diesel Tonic XHD Maximum Super Plus Maximum Plus Maximum Supreme

Gasoline	Motor Oil
Shell Canada	
Shell (r,ur,up) Beaver (r,ur,up)	Shell X100 Shell TLO Shell Extrema Rotella
Sunoco, Inc.	
Sunoco (r,plus,supreme, ultra)	Ultra
Suny's Petroleum Inc.	
Suny's	(ur,usp,p,d)
Ultramar Canada Inc.	
Ultramar Sterling XL Gillies Guy Champion	Super Ultralube

KEY

Gasoline:

(r)	Regular
(p)	Premium
(ur)	Unleaded
(up)	Unleaded Premium
(d)	Diesel

Motor Oils:

Brand names are listed lowest-price grade first.

Canadian Gasoline Shares by Key Categories:

	Service Stations					Pumpers				
	1991	1990	1989	1988	1987	1991	1990	1989	1988	1987
Eastern Region										
• % of Outlets	41.5	42.4	46.4	47.4	51.4	27.6	27.8	26.6	26.3	25.7
• % of Volume	38.2	39.0	43.3	44.0	47.0	44.0	43.7	40.9	40.6	39.7
• Avg. Monthly Vol. (Liters)	132,944	133,524	133,022	133,918	126,765	230,708	230,217	219,561	222,573	214,334
• Avg. Monthly Vol. (U.S. gal.)	35,124	35,277	35,191	35,428	33,536	60,953	60,824	58,005	58,802	56,702
Central Region										
• % of Outlets	47.8	47.7	49.1	50.6	53.5	36.0	36.0	35.2	34.5	31.1
• % of Volume	42.6	42.8	44.2	46.6	49.2	49.9	49.7	48.6	46.8	43.6
• Avg. Monthly Vol. (Liters)	191,936	191,730	193,283	198,345	189,228	299,504	295,397	296,297	292,760	289,135
• Avg. Monthly Vol. (U.S. gal.)	50,710	50,655	51,133	52,472	50,060	79,129	78,044	78,386	77,460	76,491
Western Region										
• % of Outlets	33.8	34.1	36.8	37.1	40.8	44.7	45.7	44.0	44.3	40.6
• % of Volume	30.9	30.8	35.6	35.7	38.4	58.6	59.6	56.0	56.2	53.7
• Avg. Monthly Vol. (Liters)	170,771	172,679	185,786	186,768	209,373	244,734	249,826	244,160	246,957	267,955
• Avg. Monthly Vol. (U.S. gal.)	45,118	45,622	49,150	49,410	55,390	64,659	66,004	64,593	65,333	70,888
Total Canada										
• % of Outlets	41.7	42.0	44.8	45.8	49.3	35.5	35.9	34.7	34.3	31.7
• % of Volume	37.9	38.2	41.5	42.7	45.2	50.8	51.1	48.7	47.9	45.6
• Avg. Monthly Vol. (Liters)	166,451	167,338	170,012	172,837	170,380	261,079	261,802	257,658	258,044	260,000
• Avg. Monthly Vol. (U.S. gal.)	43,976	44,211	44,977	45,724	45,074	68,977	69,168	68,163	68,266	68,807

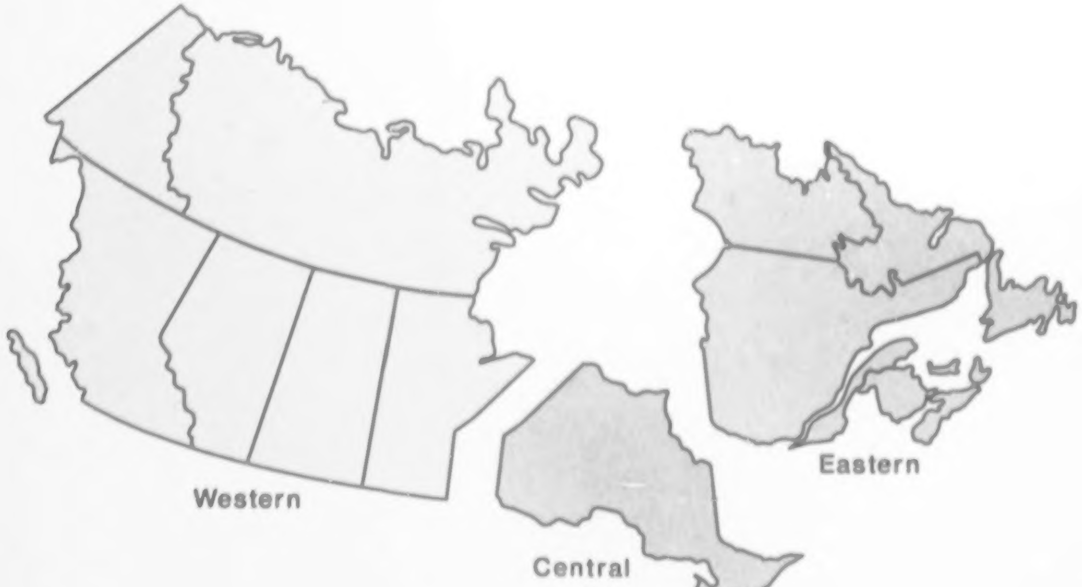
Source: MPSI Inc., Tulsa, Okla.

A study of Canadian retail gasoline market shares was initiated in 1985 by MPSI Inc., Tulsa, Okla., a firm specializing in computer software and information services in addition to market research and planning.

This year, for the first time, gasoline market share data is shown for a five-year period—1987 through 1991—to provide an overview of trends within the key categories of gasoline retailing in Canada.

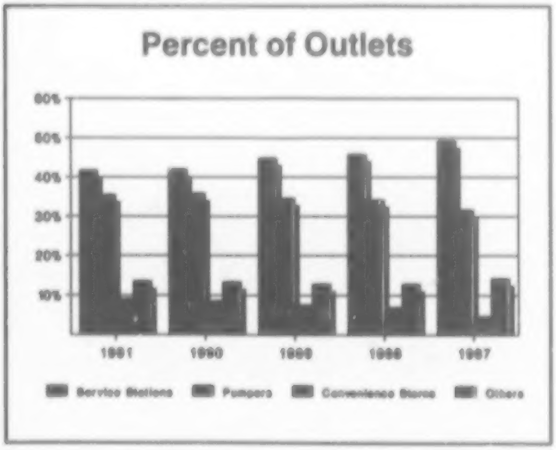
The study presents market shares and percentages of outlets both nationally and regionally for conventional service stations, gasoline pumpers, convenience stores selling gasoline, plus a general category of "others," including car washes, garages and other facilities.

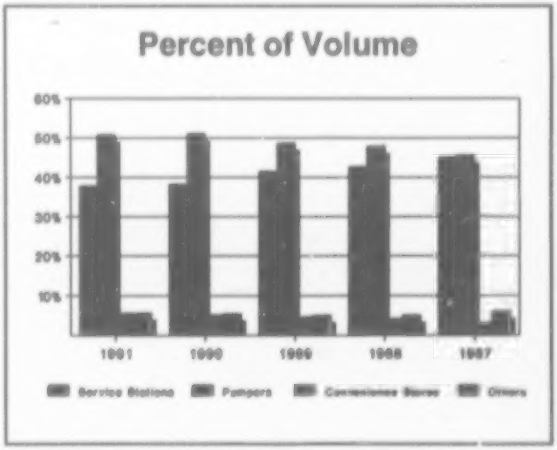
This study is concentrated in Canada's metropolitan areas, where most gasoline is marketed. It does not count rural and highway vendors, which while important to the industry, do not add substantially to the overall consumption data.

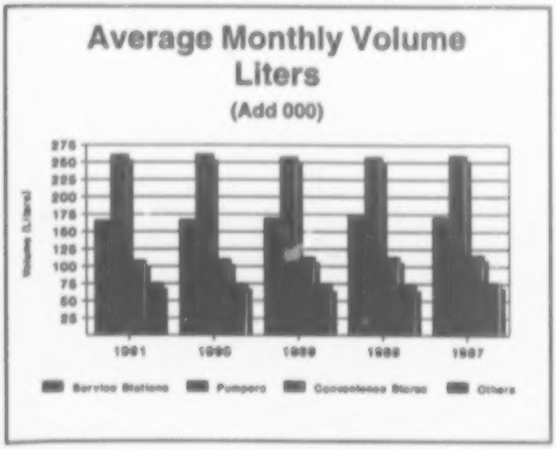


A Five-Year Overview

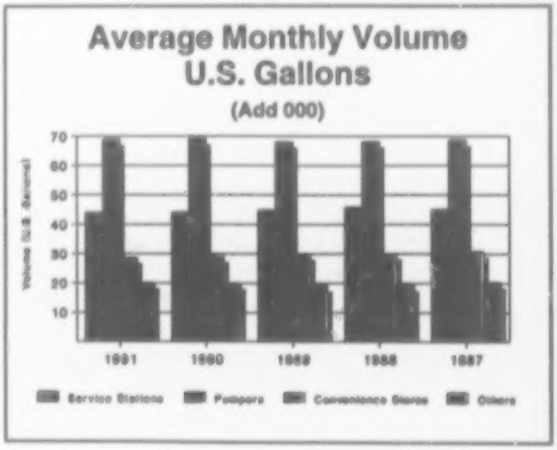
Convenience Food Stores					Others					Total				
1991	1990	1989	1988	1987	1991	1990	1989	1988	1987	1991	1990	1989	1988	1987
13.0	12.0	10.9	10.5	7.3	17.9	18.0	16.1	15.8	15.6	100.0	100.0	100.0	100.0	100.0
8.9	8.5	8.2	7.9	6.0	8.9	8.8	7.6	7.5	7.3	100.0	100.0	100.0	100.0	100.0
98,951	101,754	107,704	107,498	113,205	72,459	71,372	66,776	67,983	64,248	144,678	145,203	142,574	144,013	138,500
26,143	26,684	28,493	28,439	29,948	19,144	18,857	17,666	17,985	16,997	38,224	38,363	37,718	38,097	36,640
5.2	4.7	4.0	3.0	1.8	11.0	11.6	11.7	11.9	13.6	100.0	100.0	100.0	100.0	100.0
3.3	3.1	2.7	2.0	1.3	4.2	4.4	4.5	4.6	5.9	100.0	100.0	100.0	100.0	100.0
138,384	139,834	144,233	142,705	141,957	81,286	80,992	83,034	82,452	89,500	215,686	213,662	214,719	215,350	205,846
36,561	36,944	38,157	37,753	26,455	21,476	21,380	21,967	21,813	23,677	56,984	56,450	56,804	56,971	54,457
10.1	9.9	8.8	8.0	5.6	11.4	10.3	10.4	10.6	13.0	100.0	100.0	100.0	100.0	100.0
5.6	5.4	4.8	4.5	3.0	4.9	4.2	3.6	3.6	5.2	100.0	100.0	100.0	100.0	100.0
104,596	104,978	103,939	108,643	109,752	79,189	77,322	67,429	67,027	79,114	186,617	191,378	191,957	194,454	210,619
27,634	27,735	27,498	28,741	29,035	20,922	20,428	17,838	17,732	20,430	49,304	50,562	50,782	51,442	55,719
9.3	8.7	7.7	7.0	4.8	13.5	13.4	12.8	12.9	14.2	100.0	100.0	100.0	100.0	100.0
5.6	5.2	4.7	4.3	3.1	5.7	5.5	5.1	5.1	6.1	100.0	100.0	100.0	100.0	100.0
108,633	110,543	113,597	113,672	116,825	76,710	75,804	72,509	72,869	77,248	182,556	184,012	183,516	185,073	182,985
28,701	29,205	30,052	30,072	30,906	20,267	20,027	19,182	19,278	20,436	48,231	48,616	48,549	48,961	48,409


Percent of Outlets


Percent of Volume


Average Monthly Volume Liters

(Add 000)


Average Monthly Volume U.S. Gallons

(Add 000)

Motor Vehicle Registrations, 1990

Province	Passenger Cars	Trucks	Buses	Motorcycles	Others	Total Vehicles	Trailers	Off-road Snow-mobiles	Off-road Other	Licensed Gasoline Outlets
Newfoundland	200,374	88,749	1,645	8,799	6,284	305,851	31,628	74,700	17,582	—
Prince Edward Island	59,970	22,630	543	1,512	58	84,716	2,179	419	337	—
Nova Scotia	418,135	168,366	1,985	14,603	526	603,615	41,986	10,238	6,655	—
New Brunswick	312,948	145,915	—	9,811	6,997	475,671	60,166	—	22,317	1,175
Quebec	2,917,255	513,795	15,882	63,255	70,578	3,580,765	749,211	113,758	278,774	—
Ontario	4,756,855	1.089,127	29,502	120,411	4,427	6,000,322	1,143,883	328,343	80,274	—
Manitoba	543,095	224,113	160	11,680	21	779,069	109,261	35,798	217	—
Saskatchewan	448,518	271,797	4,320	4,390	6,939	735,964	97,944	5,095	—	—
Alberta	1,187,948	626,277	9,681	37,008	748	1,861,662	425,231	13,875	19,841	—
British Columbia	1,753,372	687,918	—	58,195	—	2,499,485	291,226	53,386	—	—
Yukon	12,770	17,201	190	791	—	30,952	2,530	654	—	—
Northwest Territories	10,798	11,497	51	620	92	23,058	2,611	—	3,313	—
Total	**12,822,038**	**3,867,385**	**63,962**	**331,075**	**96,670**	**16,981,130**	**2,957,858**	**636,266**	**429,310**	**1,175**

"Off-road other" includes farm tractors, construction equipment, etc.
— = Figures not available.

New Motor Vehicle Sales

Year	Total New Motor Vehicles	Passenger Cars	Comm. Vehicles	North America	Japan	Other Countries(a)	North America	Other Countries(a)
1991	1,287,790	873,184	414,606	573,297	237,701	62,186	347,671	66,935
1990	1,317,852	884,564	433,288	580,397	239,603	64,564	361,403	71,902
1989	1,483,875	988,134	495,741	675,640	239,548	73,246	422,398	73,343

(a) Excludes Japanese and North American manufactured vehicles.

Drivers Licenses, 1991

Province	Operators (Drivers and Chauffeurs)	Temporary (Instructor Permits)
Newfoundland	320,150	9,517
Prince Edward Island	88,565	—
Nova Scotia	567,097	11,852
New Brunswick	460,050	23,165
Quebec	4,032,971	—
Ontario	6,448,883	301,569
Manitoba	638,444	—
Saskatchewan	638,600	—
Alberta	1,906,868	107,715
British Columbia	2,569,701	—
Yukon	33,156	—
Northwest Territories	13,465	1,311
Total	**17,717,950**	**455,129**

Principal Heating Fuels in 1991

(000 households)

Province	Oil	Piped Gas	Bottled Gas	Electri-city	Other	Wood	Total Hshlds
Newfoundland	59	—	—	76	—	41	177
PE Island	37	—	—	—	—	8	847
Nova Scotia	191	—	5	83	...	41	326
New Brunswick	73	—	—	137	—	41	251
Quebec	537	207	—	1,748	...	119	2,618
Ontario	564	2,096	18	803	9	95	3,585
Manitoba	18	225	—	129	—	14	389
Saskatchewan	29	295	...	16	—	10	359
Alberta	14	830	20	23	...	7	898
British Columbia	143	709	...	294	—	63	1,225
Total	**1,655**	**4,[illegible]2**	**67**	**3,309**	**31**	**439**	**9,873**

Data from a sample survey only.
... = Amount too small. — = Figures not available.
"Other" includes coal and coke.

Automobiles Per Household, 1991

(Estimates in thousands)

Province	Households	Total Households With Vehicles	Households with Automobiles			3 or More Autos	Without Autos	Vans or Trucks	
			Total	1 Auto	2 Autos			With 1	2 or More
Newfoundland	177	143	116	92	20	4	61	55	6
Prince Edward Island	47	40	38	27	8	—	9	13	—
Nova Scotia	326	271	251	185	58	8	75	75	9
New Brunswick	251	218	200	149	44	7	50	68	9
Quebec	2,618	2,053	1,959	1.399	479	81	658	313	21
Ontario	3,585	2,930	2,792	1,809	796	187	793	583	69
Manitoba	389	324	303	203	81	20	86	89	16
Saskatchewan	359	314	285	202	66	17	73	116	31
Alberta	898	802	734	475	204	55	163	258	86
British Columbia	1,255	1,065	983	646	269	68	241	324	51
Total	**9,873**	**8,160**	**7,662**	**5,187**	**2,026**	**449**	**2,211**	**1,894**	**300**

— = Figures not available.
Source: (all tables on this page) Statistics Canada.

Gap Narrows Slightly Between Canadian/U.S. Gasoline Prices

Canadian motorists could take some comfort in the fact that their average retail pump prices were lower by more than 10% in March of this year than prices were a year earlier. However, the disparity between Canadian and U.S. gasoline prices continues to be quite substantial.

According to the April 1992 *Petroleum Product Market Report* published by Energy, Mines and Resources Canada (EMR), Canadian motorists paid $1.60/gal. (U.S. dollars) in March 1992, or 52¢/gal. more than their U.S. counterparts. However, EMR points out that the differential between average Canadian and U.S. prices in March was the lowest since June 1989.

Approximately 90% of the diffential between the two countries' retail prices was accounted for by higher federal and provincial taxes in Canada. That tax differential amounted to about 46¢ gal.

The figures represent major city averages for all grades and types of service in March in both countries. Canadian prices are figured on the basis of the metric system liter (1 gal. = 3.785 liters), but for purposes of this analysis are expressed in U.S. dollars per gallon.

Canada vs. U.S. — Motor Gasoline

Average Retail Prices. All Grades – March 1992.
U.S. cents/gal.
Canadian cents/liter shown in parenthesis.

Exchange rate — March 1992 = 1.1926

LPG Sales by State and Use, 1990

(000 gal.)

	Residential and Commercial	Chemical	Industrial (1)	Engine Fuel	Utility Gas	Farm	Other (2)	Total (3)
Alabama	132,816	0	10,814	8,574	0	21,911	823	174,966
Alaska	14,820	0	0	502	0	0	0	16,113
Arizona	38,143	0	14,655	4,906	0	4,784	841	63,329
Arkansas	91,446	0	5,297	7,404	0	39,074	2,445	145,837
California	284,187	0	334,300	82,337	0	40,558	16,186	852,783
Colorado	83,834	0	18,676	6,658	0	5,511	1,213	127,435
Connecticut	42,335	0	5,497	3,216	0	2,448	0	66,902
Delaware	28,313	0	5,173	511	0	6,142	0	44,101
Florida	246,509	0	21,928	18,969	18,399	13,843	5,760	325,424
Georgia	167,985	0	25,189	9,364	0	47,597	1,842	253,314
Hawaii	0	0	0	0	0	0	0	7,482
Idaho	15,737	0	2,177	4,271	0	2,347	1,077	25,609
Illinois	158,561	9,972	26,927	29,221	0	71,783	5,161	326,549
Indiana	172,653	0	12,245	13,608	0	78,271	5,288	398,903
Iowa	135,511	0	14,440	3,762	0	106,505	3,752	267,641
Kansas	58,419	59,278	51,100	12,656	0	32,016	56,864	388,575
Kentucky	90,201	0	121,646	5,779	0	12,538	0	255,167
Louisiana	38,268	921,665	29,817	6,154	0	9,762	30,447	1,053,322
Maine	42,649	w	11,708	1,528	1,199	243	100	58,413
Maryland & DC	53,830	0	12,926	4,648	0	8,942	2,213	82,676
Massachusetts	67,115	0	8,820	5,277	27,325	833	1,166	110,542
Michigan	323,039	0	62,506	25,247	6,418	36,803	86,481	626,729
Minnesota	144,908	0	29,055	5,054	0	71,041	248	250,640
Mississippi	106,640	0	20,049	11,721	0	14,377	589	299,352
Missouri	207,201	371	34,365	10,449	0	24,629	1,419	288,303
Montana	40,175	0	19,223	5,942	0	3,789	3,961	73,090
Nebraska	48,323	0	11,189	5,448	0	57,091	48	122,313
Nevada	40,379	0	4,383	2,005	0	1,511	0	60,092
New Hampshire	71,612	0	9,529	1,318	1,351	241	5,066	89,117
New Jersey	44,427	0	20,713	6,652	0	583	799	181,930
New Mexico	84,260	0	7,026	10,486	0	4,355	364	234,542
New York	201,571	0	12,292	13,398	0	5,167	1,952	235,510
North Carolina	211,346	0	44,756	14,259	1,269	93,456	7,982	373,828
North Dakota	32,250	0	3,576	1,242	0	16,997	5,430	59,722
Ohio	207,790	0	42,407	31,883	0	58,823	6,508	462,922
Oklahoma	62,940	453	56,081	8,626	0	16,109	818	146,980
Oregon	18,767	0	15,454	16,295	0	6,748	875	58,139
Pennsylvania	125,135	0	43,205	13,986	0	18,584	2,177	265,339
Rhode Island	13,679	0	5,219	1,708	0	43	0	21,042
South Carolina	83,104	0	15,456	7,727	0	15,445	356	122,989
South Dakota	85,531	0	1,120	2,030	0	65,521	814	155,022
Tennessee	84,815	0	21,602	11,229	0	3,354	413	122,088
Texas	302,987	5,161,021	81,478	42,686	0	41,952	74,456	5,742,677
Utah	20,970	0	3,431	4,518	0	1,068	0	44,965
Vermont	54,819	0	2,108	952	0	339	0	58,854
Virginia	104,950	0	29,042	5,654	0	28,128	3,326	171,730
Washington	32,461	0	24,462	25,960	0	5,766	2,010	97,186
West Virginia	20,571	0	4,423	1,682	0	2,798	0	67,802
Wisconsin	206,910	0	24,398	10,531	0	33,981	3,596	279,914
Wyoming	24,060	0	16,143	2,394	0	1,830	0	53,329
Total	**4,975,329**	**7,024,799**	**1,520,188**	**532,099**	**123,039**	**1,135,974**	**499,801**	**15,811,229**

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*Propane only; butane withheld.

w - Data withheld to avoid disclosing reports for individual companies. These reports included in totals.

(1) Includes refinery fuel.

(2) Includes secondary recovery of petroleum and synthetic natural gas feedstock.

(3) API data on LP-gas refinery inputs is used in determining LP-gas production/sales in preference to the volume reported by EIA.

Source: National Petroleum Gas Assn.

LPG Sales Trends in Recent Years (a)

(000,000 gal.)

Major Domestic Markets

Year	Total U.S. Sales Vol.	Total U.S. Sales % Change	Residential - Commercial Vol	Residential - Commercial % Change	Chemical Vol.	Chemical % Change	Internal Combustion Vol.	Internal Combustion % Change	Industrial Vol.	Industrial % Change	Farm Vol.	Farm % Change
1990	15,811	(13.0%)	4,975	(26.5%)	7,025	18.0%	532	(22.9%)	1,520	(33.4%)	1,136	(27.0%)
1989	18,176	8.1	6,772	9.2	5,951	(1.8)	690	(3.5)	2,282	26.6	1,556	8.0
1988	16,807	4.0	6,149	8.4	6,057	(4.0)	715	(0.4)	1,803	39.4	1,431	(1.2)
1987	16,157	12.8	5,671	0.1	6,307	47.8	718	(13.5)	1,293	(3.6)	1,459	(10.7)
1986	14,325	(3.0)	5,607	(3.2)	4,267	(0.9)	821	(12.8)	1,341	3.2	1,634	(4.2)
1985	15,080	(0.3)	5,794	11.4	4,307	4.8	942	1.0	1,299	(31.2)	1,706	2.6
1984	15,129	10.5	5,203	(14.6)	4,109	26.7	951	(30.2)	1,888	54.7	1,663	40.7
1983	13,688	(1.6)	6,090	(1.5)	3,244	(3.5)	1,362	9.8	1,220	(6.9)	1,183	(8.0)
1982	13,915	(3.3)	6,180	(2.1)	3,362	(3.2)	1,240	9.7	1,310	(5.0)	1,285	(12.1)
1981	14,395	(3.8)	6,310	(3.4)	3,474	(3.1)	1,130	3.6	1,380	(10.9)	1,463	(4.4)
1980	14,969	(8.9)	6,531	(4.9)	3,584	(11.3)	1,090	4.3	1,548	(20.2)	1,529	(15.4)
1979	16,432	9.4	6,871	1.2	4,043	12.7	1,045	5.5	1,940	44.8	1,764	D

This is as far back as the restated API/LPGA data go on sales trends. The figures below are Energy Information Administration data and are not essentially comparable to the restated data above. In the data below, the last column was for "all other uses" instead of farm consumption.

1977	15,508	(3.2)	7,169	(2.0)	3,578	(12.4)	1,145	(2.1)	1,044	D	2,573	7.5
1975	15,200	(6.8)	7,020	(2.9)	4,172	(23.0)	1,162	(11.3)	1,082	1.2	1,763	38.3
1970	15,271	26.6	7,569	41.6	5,003	24.8	1,336	11.9	897	32.1	467	125.6
1965	11,434	33.7	5,346	26.5	4,008	54.6	1,194	33.0	679	13.9	207	(23.0)
1960	8,579	40.1	4,225	50.8	2,593	36.5	898	37.7	596	13.7	269	9.3

(a) In 1984, the Energy Information Administration suddenly terminated collection of LPG sales data for budgetary reasons. The American Petroleum Institute, the Liquefied Petroleum Gas Assn. and others began a cooperative effort to provide the missing data annually. The 1983 and 1984 data were published in March 1986. The new information is based on EIA data, plus API and LPGA, and are restated for the years 1979–1984. Utility gas, refinery fuel and miscellaneous uses are included in U.S. totals, but are not stated separately.
Source: National Propane Gas Assn.

LPG Sales Nosedive In 1990—Losses Led by Industrial and Residential-Commercial

After several years of solid gains, the market for liquefied petroleum gas (LPG) went flat in 1990. Declines were reported in four of the the five major categories of LPG sales, according to the National Propane Gas Assn.

Industrial market sales volumes for the year were particularly hard hit, with sale declining by a third—this after extraordinary increases in the two previous years: 1988 (up 39%) and 1989 (up 27%).

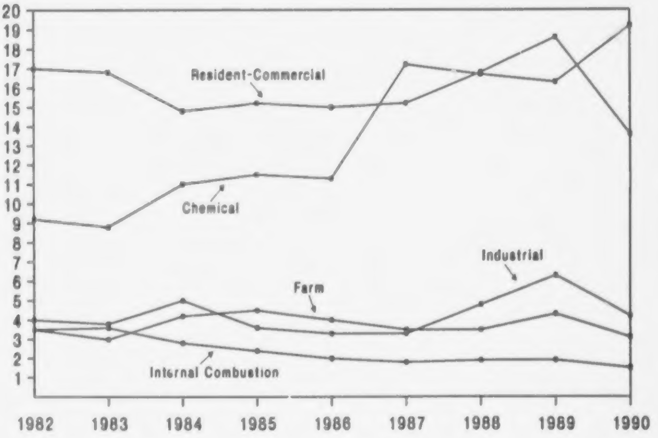
Internal combustion applications for LPG, while viewed as a potentially important alternate fuel source, did not fare too well either, decreasing almost 25% for the year.

Residential-commercial sales, which have been healthy the past couple of years, had a substantial decline in sales in 1990, dropping almost 27% for the year. Farm sales, too, were soft compared to the previous year. The only gainer in the 1989-'90 period was sales to the chemical market.

In the table above, LPG used in refineries is included in industrial consumption. Other secondary uses are lumped together in the U.S. total.

Principle Uses of LPG by Sectors

(000,000 gal. per day)



LPG Sales by State, 1984 – 1990

(Add 000 gal.)

State	1990	1989	1988	1987	1986 (c)	1985	1984 (a,b)
Alabama	174,966	259,158	203,460	199,719	175,072	174,219	178,075
Alaska	16,113	11,615	11,930	11,799	13,300	14,889	w
Arizona	63,329	67,230	71,827	81,889	82,649	76,034	66,727
Arkansas	145,837	196,961	163,669	151,705	167,503	176,381	168,904
California	852,783	993,177	837,107	760,059	226,324	776,882	739,859
Colorado	127,435	119,977	109,700	93,217	89,478	105,256	103,705
Connecticut	66,902	68,467	64,580	31,194	46,383	51,680	51,282
Delaware	44,101	42,197	43,199	36,717	33,084	41,825	49,652
Florida	325,424	351,277	344,946	351,349	431,608	399,436	347,271
Georgia	253,314	327,485	292,240	259,010	274,184	291,335	263,364
Hawaii	7,482	7,784	7,999	7,427	6,712	6,296	w
Idaho	25,609	33,932	30,689	25,367	30,718	36,230	31,815
Illinois	326,549	471,355	626,610	724,026	764,188	788,693	794,996
Indiana	398,903	455,331	403,965	390,877	329,913	328,805	357,416
Iowa	267,641	430,481	424,779	375,396	588,186	591,080	528,416
Kansas	388,575	460,982	440,305	321,476	212,224	611,981	756,234
Kentucky	255,167	338,631	330,012	333,929	270,554	284,430	260,962
Louisiana	1,053,322	888,729	958,783	848,555	896,539	952,434	982,522
Maine	58,413	68,463	68,253	51,248	42,465	26,533	22,935
Maryland & D.C	82,676	93,973	72,979	69,569	59,584	75,501	96,840
Massachusetts	110,542	111,387	100,964	103,691	94,715	72,752	65,990
Michigan	626,729	875,392	832,585	817,843	801,192	720,361	484,763
Minnesota	250,640	347,039	343,762	316,810	397,852	356,330	333,725
Mississippi	299,352	243,588	170,510	153,275	147,132	208,514	218,242
Missouri	288,303	472,996	410,148	362,524	384,048	372,837	340,805
Montana	73,090	65,070	52,903	50,973	63,384	61,597	49,258
Nebraska	122,313	215,249	225,479	199,576	163,284	176,763	149,236
Nevada	60,092	73,703	46,954	39,855	45,898	47,390	36,366
New Hampshire	89,117	109,589	90,831	82,561	71,272	64,713	50,017
New Jersey	181,930	223,407	263,048	252,581	207,911	232,104	264,907
New Mexico	234,542	113,994	67,582	67,733	71,050	140,102	153,130
New York	235,510	245,893	226,611	221,553	208,275	207,808	208,193
North Carolina	373,828	414,145	341,971	358,596	314,373	323,996	299,367
North Dakota	59,722	103,522	92,014	88,589	89,402	26,811	31,464
Ohio	462,922	678,776	581,431	534,490	520,397	603,114	504,464
Oklahoma	146,980	203,428	242,701	241,441	280,609	400,132	272,150
Oregon	58,139	67,427	66,488	64,205	71,896	67,666	60,694
Pennsylvania	265,339	295,593	243,484	205,314	186,764	228,144	239,876
Rhode Island	21,042	21,631	23,842	26,112	24,500	20,888	12,962
South Carolina	122,989	162,126	152,734	145,110	122,967	134,045	108,489
South Dakota	155,022	217,858	101,005	139,392	104,189	86,254	69,586
Tennessee	122,088	198,950	187,459	146,307	166,793	149,979	137,847
Texas	5,742,677	6,043,836	5,550,190	5,556,446	3,730,949	3,749,674	4,066,334
Utah	44,965	54,404	51,303	51,043	48,993	60,931	62,630
Vermont	58,854	66,693	50,353	44,281	37,026	33,848	28,321
Virginia	171,730	198,186	185,097	165,871	141,903	162,529	157,263
Washington	97,186	136,428	100,360	106,532	94,972	88,627	92,533
West Virginia	67,802	52,810	44,375	38,622	38,200	35,663	15,031
Wisconsin	279,914	409,646	374,336	321,334	346,983	361,689	364,777
Wyoming	53,329	65,888	80,038	99,922	67,828	76,241	75,340
Total	**15,811,229**	**18,175,604**	**16,807,500**	**16,157,120**	**14,325,445**	**15,079,822**	**14,789,925**

W - Data withheld to avoid disclosing reports to individual companies. These reports included in totals.

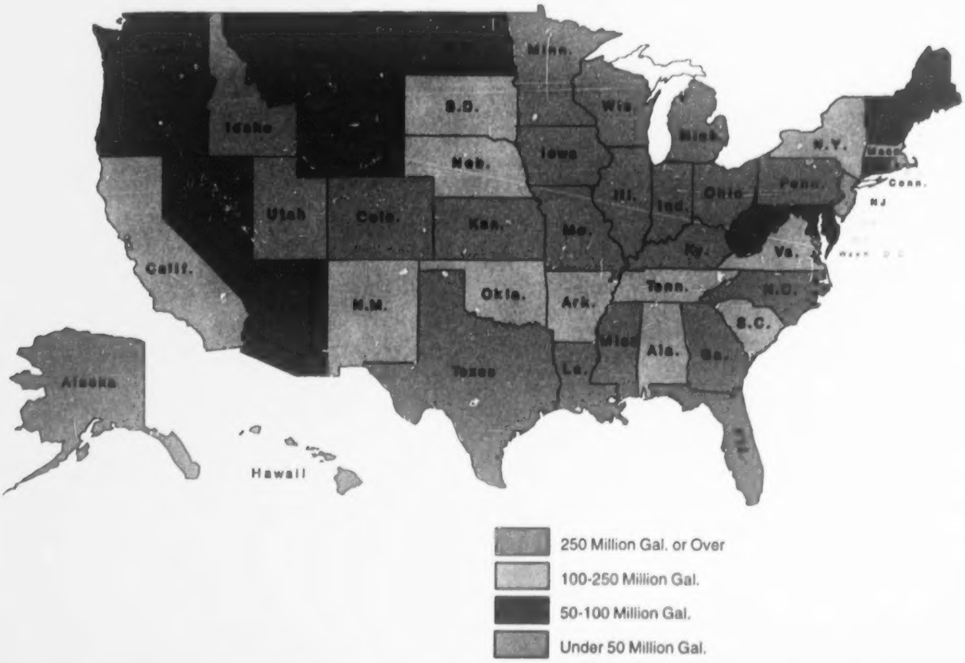
(a) Includes chemical feedstock use - 1984 and succeeding years.

(b) API data on LP-gas refinery inputs is used in determining LP-gas production/sales in preference to the volume reported by EIA - 1984 and succeeding years.

(c) Significant changes from 1985 and earlier LP-gas sales in some states are based on additional information furnished to API by several natural gas liquids pipeline companies.

Souce: National Propane Gas Assn.

Where LP Gas Was Used in 1990


Minn.
S.D.
Wis.
Idaho
Mich.
N.Y.
Mass.
Neb.
Iowa
Conn.
Penn.
Ill.
Ind.
Ohio
NJ
Utah
Colo.
Kan.
Mo.
Ky.
Va.
Wash. D.C.
Calif.
Tenn.
N.C.
Okla.
Ark.
N.M.
S.C.
Miss.
Ala.
Ga.
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100-250 Million Gal.
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Lube Sales Down in 1991

The National Petroleum Refiners Assn.'s annual lubricants survey indicates that sales dropped substantially in 1991, almost 10% compared to the previous year. It was by far the biggest slippage in sales in the past decade.

The NPRA report does not give volumes, only indexes and percentages that are based on the reports of participating companies. To preserve the confidentially aspects of company sales, the reports are given to an independent auditor who converts them into indexes on an industry wide basis.

In this latest report, the base for quarterly indexes has been updated from the former base year of 1980 to 1989. Average quarterly indexes for that year now equal 100%.

The product categories, as currently defined by the NPRA, are as follows: automotive oil—engine oils, automatic transmission fluids, gear and aviation oils; industrial oil—industrial engine oils, metalworking fluids, process and general industrial oils; grease—automotive and industrial greases.

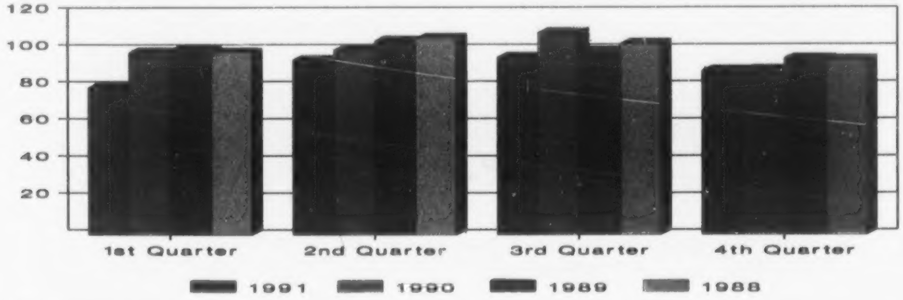
Quarterly Indexes on Lubricant Sales

(1989 Avg. Qtr. = 100%)

Year	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	Full Year
1991	79.4	94.3	95.6	88.4	89.4
1990	98.4	99.7	109.0	88.8	99.0
1989	99.8	104.5	98.8	94.9	99.5
1988	98.2	105.9	103.0	94.2	100.3
1987	96.9	103.9	104.0	97.0	100.5
1986	100.4	107.2	104.4	93.7	101.4

Total Lubricant Sales

(Index: 1989 = 100)



Percentage Changes by Product and Quarter (a)

Year/Product	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	Full Year
1991 vs. 1990					
Automotive	(20.5)%	(0.9)%	(12.2)%	5.2%	(7.1)%
Industrial	(18.1)	(11.9)	(12.8)	(8.0)	(12.7)
Grease	(11.4)	(2.3)	(3.1)	0.2	(4.2)
Total	**(19.4)**	**(5.4)**	**(12.3)**	**(0.5)**	**(9.4)**
1990 vs. 1989					
Automotive	(3.4)%	(7.1)%	14.6%	(8.8)%	(1.2)%
Industrial	1.6	(1.0)	4.3	(3.3)	0.4
Grease	(4.6)	(3.5)	8.0	(2.6)	(0.7)
Total	**(1.4)**	**(4.7)**	**10.3**	**(6.4)**	**(0.6)**
1989 vs 1988					
Automotive	5.3%	1.8%	(0.9)%	2.7%	2.2%
Industrial	(3.0)	(5.1)	(7.7)	(1.0)	(4.2)
Grease	(4.6)	(11.3)	(18.0)	(13.3)	(11.8)
Total	**1.7**	**(1.3)**	**(4.2)**	**0.8**	**(0.8)**
1988 vs. 1987					
Automotive	(3.6)%	(1.9)%	(5.4)%	(3.5)%	(3.6)
Industrial	8.6	7.7	5.0	4.6	6.5
Grease	5.1	6.6	11.3	5.1	7.0
Total	**1.3**	**1.9**	**(0.9)**	**(0.1)**	**0.6**

(a) Revised.

Source: National Petroleum Refiners Assn. Quarterly Index of Lubricant Sales 1991, March 1992.

Lubricants—Supply, Disposition and Stocks

(000 bbl.)

Year	Refinery Production	Imports	Stock Changes	Exports	Products Supplied	Ending Stocks Refinery	Ending Stocks Bulk Terminal	Ending Stocks Total
1991	57,026	2,618	(47)	6,516	53.175	8,200	4,126	12,326
1990	61,155	3,540	(1,453)	7,155	58,993	7,840	4,533	12,373
1989	59,738	4,005	528	6,815	56,400	9,183	4,643	13,826
1988	62,478	3,658	19	9,018	57,137	9,475	3,823	13,298
1987	61,639	4,076	1,475	8,613	58,577	9,410	3,907	13,317

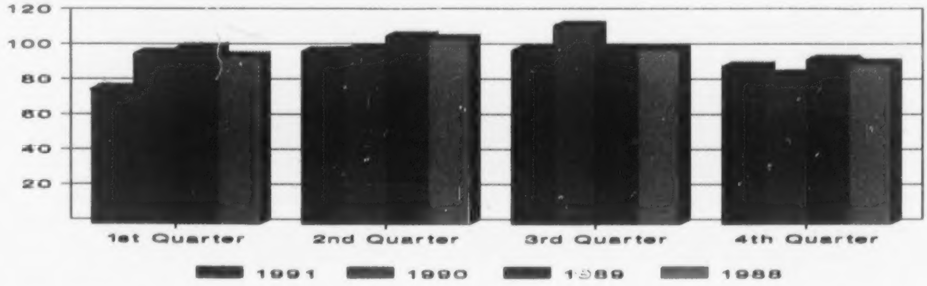
1991 Month-by-Month Variations in Supplies

Month	Refinery Production	Imports	Stock Changes	Exports	Products Supplied	Ending Stocks Refinery	Ending Stocks Bulk Terminal	Ending Stocks Total
January	5,171	212	95	484	4,804	8,263	4,205	12,468
February	4,490	53	834	425	13,284	8,907	4,395	13,302
March	5,018	154	409	524	4,239	9,495	4,216	13,711
April	4,550	191	(303)	513	4,531	9,321	4,078	13,408
May	4,947	317	(218)	657	4,825	9,012	4,178	13,190
June	4,964	184	(21)	576	4,593	9,164	4,005	13,169
July	4,787	357	(544)	539	5,149	8,627	3,998	12,625
August	4,700	218	48	594	4,276	8,530	4,143	12,673
September	4,949	118	64	501	4,502	8,746	3,991	12,737
October	4,468	226	(515)	554	4,655	8,191	4,031	12,222
November	4,254	216	(169)	553	4,086	7,931	4,122	12,053
December	4,728	372	273	598	4,229	8,200	4,126	12,326
Grand Total	**57,026**	**2618**	**(47)**	**6,518**	**53,173**	**8,699**	**4,124**	**12,824**

Source: Energy Information Administration, Petroleum Supply Monthlies 1991, Tables 2, 3, 41 and 51.

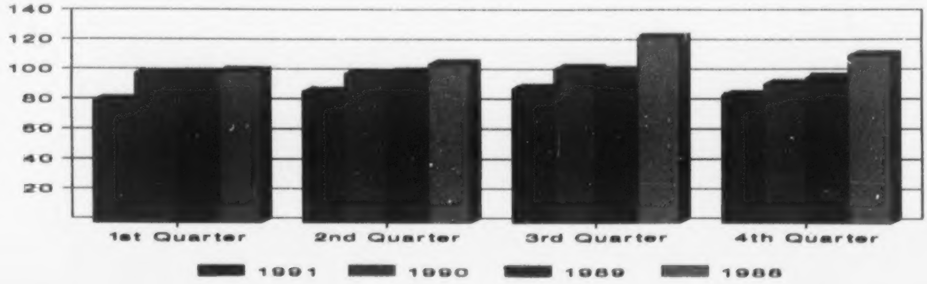
Total Automotive Lubricant Sales

(Index: 1989 = 100)



Total Industrial Lubricant Sales

(Index: 1989 = 100)



U.S. Lubricant Sales, 1985 – 1990

(000 gal.)

Total U.S. Lubricant Sales

Lubricant	1990	1989(a)	% Change 1989 vs. 1990	1988	1987	1986	1985
Automotive Oil	1,430	1,425	0.4%	1,404	1,431	1,379	1,363
Industrial Oil	1,042	972	7.2	1,011	997	921	921
Total Oils	**2,472**	**2,397**	**3.1**	**2,414**	**2,427**	**2,300**	**2,284**
Total Grease	**56**	**57**	**(1.8)**	**53**	**56**	**54**	**57**
Total Lubricants	**2,529**	**2,455**	**(3.0)**	**2,468**	**2,483**	**2,354**	**2,341**

Byproduct Sales

Byproduct	1990	1989(a)	% Change 1989 vs. 1990	1988	1987	1986	1985
Aromatic Oils:							
Rubber	68	71	(4.2)	75	72	67	71
Other	19	15	26.7	7	17	16	20
Total Aromatic	**88**	**86**	**2.3**	**81**	**89**	**83**	**92**
Total Wax	**238**	**264**	**(9.8)**	**252**	**244**	**224**	**92**

Automotive Oil Sales by Category

Automotive Oils	1990	1989(a)	% Change 1989 vs. 1990	1988	1987	1986	1985
SAE J-183a, Engine Oils:							
Monograded	315	333	(5.4)	345	363	364	382
Multigraded	825	802	2.7	766	773	734	700
Total	**1,140**	**1,136**	**(0.4)**	**1,111**	**1,136**	**1,097**	**1,082**
Non-SAE J-183a, Engine Oils:							
Aircraft	9	7	28.8	5	7	8	9
Gasoline-Fueled Two Stroke	15	13	15.4	15	16	15	15
Total	**24**	**20**	**0.2**	**20**	**23**	**23**	**24**
Transmission/Hydraulic Fuels:							
Automatic Transmission Fluids	144	148	(2.7)	149	150	143	144
Univ. Tractor, Hydr./Trans 59	62	59	5.1	60	58	55	49
Energy/Shock Ab., Power St. 11	8	2	(27.3)	10	10	10	
Other	2	2	—	3	2	2	3
Total	**216**	**220**	**(1.8)**	**223**	**220**	**210**	**208**
Gear Oils:							
GL-4 or less	10	9	11.1	5	5	5	6
GL-5	41	39	5.1	46	46	44	46
Total	**51**	**48**	**6.3**	**51**	**51**	**49**	**52**

Industrial Lubricant Sales

Industrial Lubricant	1990	1989(a)	% Change 1989 vs. 1990	1988	1987	1986	1985
General Industrial Oils:							
Hydraulic Oils	217	211	2.8	206	211	199	202
Fire-Resistant Fluids	23	14	64.3	14	15	13	12
Gear Oils	36	39	(7.7)	38	37	35	37
All Others	118	116	1.7	37	43	35	33
Total	**394**	**380**	**3.7**	**374**	**389**	**357**	**367**
Industrial Engine Oils:							
Railroad Diesel	37	41	(9.6)	49	49	51	55
Marine	61	56	8.9	55	48	47	43
Natural Gas	46	43	7.0	43	40	39	42
Total	**145**	**140**	**3.6**	**146**	**137**	**137**	**139**
Metalworking Oils	113	74	52.7	74	83	76	89
Process Oils	391	378	3.4	416	387	352	327

(a) Data revised according to revisions submitted by respondents.

Source: National Petroleum Refiners Assn. 1990 Report on U.S. Lubricating Sales.

Gasoline Consumption by State, 1991

(Includes highway and off-highway consumption)
(000 gal.)

	Rank		Gallonage (a)			Gasohol Included	
State	1991	1990	1991	1990	% Change	1991	1990(b)
Alabama	18	20	2,121,096	2,120,444	—	194,733	197,856
Alaska	49	50	244,235	274,133	(10.9)	—	—
Arizona	24	25	1,738,921	1,694,334	2.6	—	—
Arkansas	31	32	1,257,251	1,262,151	0.4	38,638	62,004
California	1	1	12,786,663	13,304,359	(3.9)	596,859	479,716
Colorado	26	27	1,555,459	1,548,545	0.4	100,844	97,263
Connecticut	27	28	1,448,260	1,348,658	7.4	13,520	—
Delaware	46	47	333,571	346,981	(3.9)	—	—
Dist. of Col.	—	—	176,291	174,175	1.2	324	—
Florida	3	3	6,091,565	6,166,807	(1.2)	95,556	77,558
Georgia	9	9	3,571,189	3,571,616	—	94,960	88,672
Hawaii	42	44	401,050	388,769	3.2	—	—
Idaho	40	41	499,359	496,127	0.7	78,432	70,199
Illinois	6	6	4,569,567	4,648,063	(1.7)	1,239,484	1,388,086
Indiana	13	14	2,655,554	2,696,418	(1.5)	170,607	638,337
Iowa	28	29	1,402,284	1,376,530	1.9	451,592	374,897
Kansas	32	33	1,218,326	1,249,019	(2.5)	71,242	73,971
Kentucky	21	23	1,810,107	1,850,870	1.0	346,130	355,987
Louisiana	23	22	1,839,316	1,897,677	(3.1)	71,470	38,760
Maine	38	39	608,149	611,394	(0.5)	—	—
Maryland	20	18	2,091,781	2,091,205	—	—	—
Massachusetts	15	16	2,349,985	2,436,221	(3.5)	—	—
Michigan	7	8	4,379,179	4,371,053	0.2	662,986	510,447
Minnesota	19	21	2,101,309	2,077,600	1.1	461,613	244,336
Mississippi	30	31	1,288,018	1,265,062	1.8	—	—
Missouri	12	13	2,759,951	2,752,483	2.7	—	267,408
Montana	41	42	446,668	447,363	(0.2)	5,626	1,123
Nebraska	36	36	768,268	795,515	(3.4)	350,616	300,632
Nevada	37	38	665,955	651,818	2.2	66,229	49,167
New Hampshire	39	40	522,166	510,137	2.4	—	—
New Jersey	10	11	3,526,624	3,527,419	—	—	—
New Mexico	33	35	834,081	811,429	2.8	152,856	156,935
New York (c)	—	4	—	5,996,576	—	—	—
North Carolina	8	10	3,593,151	3,337,499	7.7	52,804	—
North Dakota	45	46	354,545	352,200	0.7	53,356	35,821
Ohio	4	5	4,746,125	4,795,925	(1.0)	1,116,757	1,072,040
Oklahoma	25	24	1,698,111	1,712,668	(0.8)	—	—
Oregon	29	30	1,375,230	1,366,546	0.6	—	—
Pennsylvania	5	7	4,681,003	4,722,253	(0.9)	—	—
Rhode Island	44	45	373,065 (d)	380,238	(1.9)	—	—
South Carolina	22	26	1,846,228 (d)	1,866,536	(1.1)	62,549	62,549
South Dakota	43	43	397,442	393,896	0.9	136,249	60,000
Tennessee	14	15	2,538,350	2,494,386	1.8	178,373	246,713
Texas	2	2	8,564,707	8,859,462	(3.3)	244,095	247,384
Utah	35	37	769,084	724,524	6.2	300	485
Vermont	48	49	292,321	290,641	0.6	—	—
Virginia	11	12	3,014,829	3,026,255	(0.4)	152,966	161,202
Washington	16	17	2,347,601	2,311,131	1.6	101,009	86,847
West Virginia	34	34	828,660	848,683	(2.4)	—	—
Wisconsin	17	19	2,130,566	2,125,862	0.2	204,978	82,961
Wyoming	47	48	303,076	307,602	(1.5)	7,539	9,513
U.S. Total	—	—	**107,976,292**	**114,677,258**	**(3.8)**	**6,570,314**	**7,539,169**

(a) These totals reflect the gross gallonage of gasoline reported for tax purposes by wholesale distributors in each state. The data are taken from state tax reports. The data include highway and nonhighway use.

(b) These totals show gross gallons of gasohol (ethanol blends) reported by the states. In states where gasohol is taxed at the same rate as gasoline, some gasohol may be commingled with gasoline data. All 1992 totals, gasoline and gasohol, are preliminary totals.

(c) Data not available for 1991 due to nonreporting.

(d) NPN projection due to late reporting.

Source: Federal Highway Administration, Monthly Motor Fuel Reported by States, March 1992.

Gasoline Octanes–U.S. Service Stations

		Leaded Regular (a)			Unleaded Regular (b)			Unleaded Premium (c)		
Year	Season	Rsh.	Mtr.	(R+M)* 2	Rsh.	Mtr.	(R+M)* 2	Rsh.	Mtr.	(R+M)* 2
1991	Summer	93.0	83.8	88.4	91.7	82.5	87.1	97.4	87.2	92.3
1990-91	Winter	93.1	84.1	88.6	91.6	82.9	87.3	97.1	87.5	92.3
1990	Summer	93.1	84.0	88.6	92.0	82.8	87.4	97.4	87.6	92.5
1989-90	Winter	93.5	83.9	88.7	91.7	82.6	87.2	97.3	87.4	92.4
1989	Summer	93.3	83.8	88.6	91.9	82.5	87.2	97.4	87.2	92.3
1988-69	Winter	93.1	83.7	88.4	91.6	82.6	87.2	97.0	87.2	92.1
1988	Summer	93.3	83.7	88.5	92.2	82.7	87.5	97.0	86.8	91.9
1987-88	Winter	93.1	84.2	88.7	91.9	82.9	87.4	96.7	87.0	91.9
1987	Summer	93.3	84.0	88.7	92.0	82.7	87.4	96.8	86.8	91.8
1986-87	Winter	93.1	84.2	88.7	91.7	82.7	87.2	96.7	86.9	91.8
1986	Summer	93.3	84.3	88.8	92.0	82.7	87.3	96.7	86.7	91.7
1985-86	Winter	93.0	84.5	88.8	91.8	82.8	87.3	96.8	86.9	91.8
1985	Summer	92.8	84.8	88.8	91.9	82.8	87.4	96.5	86.8	91.7
1984-85	Winter	92.8	85.2	89.1	91.8	82.9	87.4	96.4	86.8	91.6
1984	Summer	92.9	85.0	89.0	91.6	82.9	87.3	96.5	86.9	91.7
1983-84	Winter	92.7	84.9	88.8	91.7	82.9	87.3	96.1	86.6	91.3
1983	Summer	93.1	84.9	89.0	92.0	82.9	87.5	96.4	86.5	91.4
1982-83	Winter	92.9	85.2	89.1	91.7	82.9	87.3	96.3	86.7	91.5
1982	Summer	93.0	85.0	89.0	91.9	82.8	87.3	96.8	86.6	91.7
1981-82	Winter	92.7	81.1	88.9	91.8	82.9	87.4	96.6	86.8	91.7
1981	Summer	92.8	85.1	89.0	91.9	83.0	87.4	96.3	86.2	91.3

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*Antiknock index.

(a) Below 93 octane.

(b) Below 90 Octane. In 1989, a new set of figures dealing with unleaded midgrade were added. 1989-1991 unleaded are below 88.0

(c) 90 octane and above.

Source: Motor Gasolines, Summer 1990, National Institute for Petroleum and Energy Research, Bartlesville, Oklahoma, February 1991.

Regional Octane Averages—Summer 1990 (a)

	Unleaded Regular (b)			Unleaded Regular (c)			Unleaded Premium (d)			Alcohol-Blended Premium(e)		
Region	Rsh.	Mtr.	(R+M)* 2	Rsh.	Mtr.	(R+M)* 2	Rsh.	Mtr.	(R+M)* 2*	Rsh.	Mtr.	(R+M)* 2
Northeast	91.8	82.3	87.1	94.4	84.4	89.3	97.9	87.3	92.6	98.0	85.7	91.9
Mid-AtlanticCoast	92.0	82.4	87.2	94.2	84.5	89.4	97.9	87.2	92.5	—	—	—
Southeast	91.7	82.4	87.1	94.1	84.3	89.2	97.5	87.1	92.3	97.2	85.7	91.5
Florida	91.7	82.4	87.0	94.2	84.4	89.3	98.1	87.8	93.0	97.5	87.3	92.4
North Central	91.4	82.5	86.9	93.7	84.8	89.3	97.0	87.9	92.5	96.9	87.2	92.1
Ohio Valley	91.7	82.5	87.1	93.7	84.7	89.2	97.2	87.4	92.3	97.6	87.3	92.5
Central and Upper Plains	91.1	82.8	87.0	93.6	84.6	89.2	96.1	87.0	91.6	95.7	85.6	90.7
Oklahoma and East Texas	92.1	82.5	87.3	94.1	84.4	89.3	97.4	87.2	92.3	96.8	85.8	91.3
West Southwest	91.7	82.5	87.1	93.9	84.8	89.4	97.2	87.1	92.1	97.7	86.8	92.3
Pacific Northwest	91.5	82.8	87.2	—	—	—	97.3	86.9	92.1	—	—	—
North California and North Nevada	92.3	82.4	87.4	93.3	83.2	88.3	97.2	86.9	92.1	97.1	85.9	91.5
South California	91.5	82.8	87.2	93.5	83.3	88.4	97.4	86.7	92.1	99.1	86.9	93.0
Average	**91.7**	**82.5**	**87.1**	**93.9**	**84.3**	**89.1**	**97.4**	**86.2**	**92.3**	**97.4**	**86.4**	**91.9**

(a) Leaded octane data were dropped in 1989 and a new set of figures dealing with unleaded midgrade gasoline were added.

(b) Below 88 octane.

(c) 88.0 to 89.9 octane.

(d) 90 octane and above.

(e) 90 octane and above, blended.

NB: Regions were reduced from 17 to 12 by the API Products Committee in 1989.

Source: Motor Gasolines, Summer 1991, National Institute for Petroleum and Energy Research, February 1991.

Gasoline Consumption by Month, 1990 (a)

(Add 000 gal.)

State	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Alabama	165,939	154,414	186,531	177,038	189,481	183,308	186,464	191,705	161,861	177,862	173,545	172,296	2,120,444
Alaska	14,609	13,819	15,285	15,179	51,944	26,920	28,974	26,228	23,926	20,266	18,780	18,203	274,133
Arizona	137,580	145,211	138,086	145,949	132,623	148,067	140,193	129,330	145,194	152,291	144,595	135,215	1,694,334
Arkansas	51,870	130,912	73,849	86,300	162,226	111,317	121,139	100,770	115,817	100,325	48,280	159,346	1,262,151
California	1,077,869	1,028,542	1,159,457	1,119,390	1,138,520	1,150,262	1,168,326	1,159,701	1,062,314	1,105,746	1,068,403	1,065,829	13,304,359
Colorado	115,747	111,469	127,866	126,178	141,839	137,855	138,313	153,265	124,429	133,247	116,404	121,933	1,548,545
Connecticut	106,820	100,460	116,566	105,036	116,537	118,495	114,805	120,385	107,716	114,115	114,562	113,141	1,348,658
Delaware	25,733	25,323	28,707	29,136	50,027	11,492	31,992	33,371	27,627	28,956	27,527	27,090	346,981
Dist. of Col.	15,152	13,309	15,607	14,764	14,604	14,436	14,833	15,137	14,007	14,235	14,043	14,048	174,175
Florida	535,235	518,116	505,269	574,248	525,085	520,778	500,919	509,899	522,195	465,047	503,673	486,343	6,166,807
Georgia	273,834	280,655	312,408	275,671	330,619	307,471	306,617	317,506	278,013	299,760	294,924	294,138	3,571,616
Hawaii	31,198	31,090	32,407	33,282	33,420	33,566	34,887	33,811	32,390	32,637	31,546	28,535	388,769
Idaho	38,274	35,733	33,357	33,269	41,609	37,407	40,713	45,978	46,429	56,150	42,606	44,602	496,127
Illinois	328,532	423,446	381,607	383,135	406,063	397,315	405,700	399,732	367,902	398,368	380,049	376,214	4,648,063
Indiana	202,733	191,599	227,402	220,464	233,439	236,753	240,634	246,153	215,356	235,317	221,785	224,783	2,696,418
Iowa	100,964	94,484	106,408	120,711	123,056	108,290	143,584	124,989	95,928	142,902	95,548	119,666	1,376,530
Kansas	92,657	90,005	108,008	101,766	112,561	116,209	111,709	113,931	95,945	104,224	100,262	101,742	1,249,019
Kentucky	116,598	153,417	143,115	168,375	170,541	161,477	156,200	174,641	146,076	157,958	148,210	154,262	1,850,870
Louisiana	148,765	138,868	163,121	157,140	135,177	169,250	167,417	186,875	145,425	162,707	153,340	169,592	1,897,677
Maine	51,560	37,905	54,199	42,473	52,990	54,431	60,256	60,884	50,859	52,286	42,695	50,856	611,394
Maryland	166,833	160,287	195,288	183,220	183,323	175,385	190,243	189,391	171,300	183,326	177,876	114,733	2,091,205
Massachusetts	192,438	180,929	208,252	196,171	212,617	214,121	191,839	241,730	194,666	204,752	199,496	199,210	2,436,221
Michigan	344,302	314,697	356,277	352,822	390,339	387,353	391,303	412,546	337,977	372,412	363,925	347,100	4,371,053
Minnesota	144,789	154,652	162,945	164,450	188,586	182,774	196,846	177,129	194,751	180,346	165,939	164,393	2,077,600
Mississippi	94,797	92,005	115,570	99,310	118,895	107,365	108,238	115,830	94,174	108,075	106,249	104,554	1,265,062
Missouri	208,807	198,740	230,116	218,391	252,839	245,629	249,075	250,767	220,082	235,178	228,086	214,773	2,752,483
Montana	28,291	28,812	34,481	33,913	38,926	43,122	49,909	49,221	37,919	36,056	35,748	30,965	447,363
Nebraska	55,395	55,079	67,979	62,561	70,617	70,501	75,505	74,732	63,437	67,221	64,291	68,197	796,515
Nevada	51,415	50,358	46,995	54,317	52,845	50,733	61,948	58,064	62,802	53,205	53,384	55,752	651,818
New Hampshire	39,937	38,289	40,861	39,436	42,612	43,819	47,177	50,800	41,555	43,637	40,969	41,045	510,137
New Jersey	302,511	228,736	328,179	284,872	239,093	375,686	309,278	247,482	291,073	348,928	297,598	273,983	3,527,419
New Mexico	64,960	61,351	52,175	79,562	73,298	74,773	73,021	73,841	66,990	66,520	66,798	58,140	811,429
New York	416,789	492,771	598,652	445,475	532,888	510,602	490,864	592,310	477,907	488,363	472,855	477,100	5,996,576
North Carolina	262,367	246,437	277,782	288,658	292,941	290,722	296,609	307,581	260,703	279,940	268,306	265,453	3,337,499
North Dakota	19,329	27,425	23,665	32,824	29,421	33,532	36,277	38,267	29,783	29,500	28,294	23,883	352,200
Ohio	383,929	338,603	391,442	407,622	426,775	425,800	419,834	439,517	382,056	404,527	383,552	392,268	4,795,925
Oklahoma	111,163	153,225	144,215	139,945	148,103	159,462	146,128	159,863	134,289	133,199	143,742	139,334	1,712,668
Oregon	61,604	126,720	90,311	136,149	119,973	103,397	129,325	146,157	125,192	115,784	88,293	123,641	1,366,546
Pennsylvania	357,132	345,955	399,590	384,101	415,749	411,489	409,257	429,245	381,578	404,551	400,712	382,894	4,722,253
Rhode Island	30,519	30,519	30,519	32,143	32,143	32,143	32,602	32,602	32,602	31,482	31,482	31,482	380,238
South Carolina	85,276	197,812	153,382	169,266	167,737	162,237	164,977	169,952	145,895	150,759	153,175	146,068	1,866,536
South Dakota	24,740	25,327	31,673	29,080	34,883	37,487	42,168	42,585	32,606	32,098	31,258	29,991	393,896
Tennessee	192,474	177,310	200,247	224,149	222,956	201,086	235,654	210,193	214,997	212,393	190,080	212,847	2,494,386
Texas	714,521	677,604	776,979	741,879	781,363	789,124	769,824	781,771	694,567	720,121	704,669	707,040	8,859,462
Utah	56,789	53,502	59,801	58,438	66,057	65,751	65,328	71,697	60,361	61,132	55,636	50,032	724,524
Vermont	20,181	27,330	22,955	20,836	24,221	24,976	27,147	28,852	23,325	25,770	22,994	22,054	290,641
Virginia	239,831	213,433	254,069	270,719	235,158	302,613	265,045	273,247	227,349	264,272	257,403	223,116	3,026,255
Washington	175,316	160,411	202,533	185,078	202,188	200,590	214,681	220,004	193,794	195,956	185,935	174,645	2,311,131
West Virginia	67,082	61,275	74,798	73,300	65,427	76,811	80,280	69,914	77,823	63,746	55,234	82,993	848,683
Wisconsin	156,315	152,195	168,127	166,178	187,701	187,206	200,411	206,212	171,249	172,991	177,632	179,645	2,125,862
Wyoming	23,464	17,716	21,037	19,320	25,641	21,597	24,123	34,750	32,610	34,901	23,590	28,853	307,602
U.S. Total	**8,724,965**	**8,808,302**	**9,690,150**	**9,523,689**	**10,037,676**	**10,052,985**	**10,108,591**	**10,340,543**	**9,254,821**	**9,675,540**	**9,215,978**	**9,244,018**	**114,677,258**

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a) Revised.

This table, based on Federal Highway Administration data, shows gross gallons of gasoline reported by wholesale distributors in each state. The data were taken from state taxation reports and may reflect time lags up to six weeks between the wholesale level and retail sales. The data include highway use, nonhighway use and losses.

(*Source: Federal Highway Administration, Monthly Motor Fuel Reported by States, December 1991, published March 1992.*

Gasoline Consumption by Month, 1991

(Add 000 gal.)

State	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Alabama	166,964	154,851	173,535	180,971	184,830	176,399	191,950	182,371	172,113	184,199	167,895	185,018	2,121,096
Alaska	17,135	15,038	15,687	18,500	20,479	26,497	27,615	25,593	20,970	20,408	18,415	17,898	244,235
Arizona	149,581	141,573	132,292	143,654	143,385	161,743	135,825	140,025	144,990	153,611	149,182	143,060	1,738,921
Arkansas	73,282	108,308	90,515	115,930	89,403	133,765	117,913	79,765	129,888	33,169	163,937	121,376	1,257,251
California	1,066,885	996,946	1,100,474	1,095,547	1,100,908	1,105,144	1,154,619	1,124,434	1,050,830	1,127,097	864,178	999,601	12,786,663
Colorado	121,095	106,678	124,323	136,035	132,835	127,794	145,006	144,719	128,084	135,313	129,242	124,335	1,555,459
Connecticut	113,420	105,477	119,890	117,071	126,757	119,822	124,393	129,229	119,824	124,890	124,047	123,440	1,443,260
Delaware	24,424	24,357	26,208	27,150	47,773	13,511	28,095	31,035	27,485	25,521	30,209	27,803	333,571
Dist. of Col.	14,241	13,316	14,533	14,850	15,214	15,121	14,253	14,959	14,322	15,652	15,042	14,788	176,291
Florida	510,562	509,261	484,468	547,476	516,812	519,315	491,675	515,815	517,464	476,513	505,644	496,560	6,091,565
Georgia	274,080	263,820	303,534	301,635	305,434	296,486	319,747	311,867	284,339	309,907	293,734	306,606	3,571,189
Hawaii	28,264	38,787	30,124	34,950	33,670	33,046	33,815	34,945	32,798	33,712	32,966	33,974	401,050
Idaho	36,502	35,010	35,383	34,889	43,003	36,742	42,959	44,174	53,303	51,223	41,253	44,918	499,359
Illinois	382,214	315,970	371,582	395,459	394,890	398,275	408,497	379,073	381,470	377,491	384,814	379,832	4,569,567
Indiana	205,303	185,373	213,429	223,989	241,139	230,130	240,660	238,837	219,255	232,813	222,017	202,509	2,655,554
Iowa	116,628	93,103	96,830	119,943	148,633	'17,249	124,406	130,940	115,197	125,884	105,655	107,816	1,402,284
Kansas	95,009	85,666	97,663	100,464	109,722	110,702	109,058	106,848	98,831	103,515	98,265	102,583	1,218,326
Kentucky	134,861	131,457	147,124	175,316	165,830	159,100	167,992	163,894	151,738	158,266	141,162	173,367	1,870,107
Louisiana	137,589	121,856	156,221	159,552	156,969	158,684	159,548	167,208	161,675	143,714	149,907	166,393	1,839,316
Maine	36,225	50,328	36,807	55,738	53,413	51,807	56,426	66,596	51,521	53,460	46,753	49,075	608,149
Maryland	170,242	155,771	168,023	176,825	185,591	181,743	179,792	174,595	173,687	180,861	172,116	172,535	2,091,781
Massachusetts	187,936	172,845	191,038	187,856	206,499	199,067	203,941	212,002	186,068	205,812	195,128	201,793	2,349,985
Michigan	325,308	304,197	361,746	353,101	389,621	384,023	405,080	406,862	336,577	330,965	392,177	389,522	4,379,179
Minnesota	145,467	147,899	177,253	165,204	183,606	187,061	198,438	196,282	176,180	116,777	227,029	180,113	2,101,309
Mississippi	96,511	86,422	102,613	112,270	114,883	113,784	118,926	108,808	97,486	118,779	100,456	117,080	1,288,018
Missouri	205,249	198,045	224,358	230,714	245,092	239,289	250,768	246,236	223,020	233,443	233,332	230,405	2,759,951
Montana	31,243	25,727	32,760	34,251	38,395	40,279	51,453	48,667	37,896	40,041	33,597	32,359	446,668
Nebraska	55,005	51,570	58,724	64,592	68,694	69,215	74,333	70,304	65,899	68,606	57,861	63,465	768,268
Nevada	53,128	51,007	43,733	56,322	54,449	57,733	57,674	61,686	63,559	55,290	58,511	52,863	665,955
New Hampshire	41,795	41,268	39,956	40,143	44,368	43,693	48,439	50,525	41,970	45,612	40,914	43,483	522,166
New Jersey	278,884	226,924	269,696	326,850	236,207	386,678	314,887	277,772	291,594	276,035	322,335	318,762	3,526,624
New Mexico	67,236	61,248	63,156	73,949	70,413	70,804	75,753	74,814	66,098	66,561	68,913	75,136	834,081
New York (a)	—	—	—	—	—	—	—	—	—	—	—	—	—
North Carolina	254,532	229,801	273,491	277,468	294,676	274,457	297,538	295,513	267,326	285,736	255,904	586,709	3,593,151
North Dakota	27,515	19,691	26,047	29,276	30,963	31,286	37,019	36,662	29,808	30,610	27,439	28,229	354,545
Ohio	393,552	329,439	368,487	399,357	435,001	413,939	425,887	407,119	377,355	417,323	385,159	393,507	4,746,125
Oklahoma	118,175	131,312	122,730	121,652	186,223	152,413	149,733	138,325	145,095	135,341	142,524	154,588	1,698,111
Oregon	71,709	104,306	127,995	109,941	96,106	130,496	141,803	125,321	128,876	103,416	122,441	112,820	1,375,230
Pennsylvania	365,516	333,084	384,621	392,291	421,939	398,334	406,163	429,487	359,756	405,167	386,619	398,026	4,681,003
Rhode Island	30,689	30,689	30,689	30,794	30,794	30,794	31,436	31,436	31,436	31,436*	31,436*	31,436*	373,065
South Carolina	139,934	138,952	152,715	154,868	163,320	156,183	159,837	164,919	153,875*	153,875*	153,875*	153,875*	1,846,228
South Dakota	28,529	24,375	28,500	30,314	35,250	38,024	43,782	39,512	33,989	35,380	29,528	30,259	397,442
Tennessee	210,016	175,230	200,491	223,291	214,132	228,440	219,382	218,065	217,558	200,269	217,113	214,363	2,538,350
Texas	706,934	637,623	741,709	702,899	731,923	689,983	729,321	768,677	729,980	704,625	702,707	718,326	8,564,707
Utah	58,471	52,353	59,929	65,453	62,450	64,968	70,293	71,993	75,227	67,291	57,291	63,365	769,084
Vermont	23,234	21,840	20,595	21,840	25,036	24,563	28,318	29,383	24,192	26,635	22,769	23,916	292,321
Virginia	228,974	228,924	246,550	254,209	218,005	296,665	256,974	275,386	258,842	253,165	233,279	263,856	3,014,829
Washington	177,482	164,457	188,794	193,415	202,868	196,245	216,508	223,755	196,173	206,364	188,531	193,009	2,347,601
West Virginia	59,697	56,584	65,825	68,657	70,967	79,439	73,897	67,409	74,938	63,716	69,705	77,826	828,660
Wisconsin	165,868	149,296	161,607	167,857	189,268	185,885	202,442	199,857	171,346	186,020	172,596	178,524	2,130,566
Wyoming	19,692	19,707	20,626	23,780	18,618	20,180	26,116	33,720	34,555	35,584	25,249	25,249*	303,076
U.S. Total	**8,442,787**	**7,867,761**	**8,725,079**	**9,088,558**	**9,296,456**	**9,376,994**	**9,590,385**	**9,517,419**	**8,946,458**	**8,967,093**	**8,810,851**	**9,346,451**	**107,976,292**

(a) Data not available for 1992 due to nonreporting.

* NPN projection, due to late reporting.

This table, based on Federal Highway Administration data. shows gross gallons of gasoline reported by wholesale distributors in each states. The data are taken from state taxation reports. The data include highway use, nonhighway use and losses.

Source: Federal Highway Administration, Monthly Motor Fuel Reported by States 1991, and some estimates by NPN.

Gasoline Consumption by Rank, 1991

State	Rank 1991	Rank 1990	Gallonage (000) 1991 (a)
California	1	1	12,783,663
Texas	2	2	8,564,707
Florida	3	3	6,091,565
Ohio	4	5	4,746,125
Pennsylvania	5	7	4,681,003
Illinois	6	6	4,569,567
Michigan	7	8	4,379,179
North Carolina	8	10	3,593,151
Georgia	9	9	3,571,189
New Jersey	10	11	3,526,624
Virginia	11	12	3,014,829
Missouri	12	13	2,759,951
Indiana	13	14	2,655,554
Tennessee	14	15	2,538,350
Massachusetts	15	16	2,349,985
Washington	16	17	2,347,601
Wisconsin	17	19	2,130,566
Alabama	18	20	2,121,096
Minnesota	19	21	2,101,309
Maryland	20	18	2,091,781
Kentucky	21	23	1,870,107
South Carolina	22	26	1,846,228
Louisiana	23	22	1,839,316
Arizona	24	25	1,738,921
Oklahoma	25	24	1,698,111
Colorado	26	27	1,555,459
Connecticut	27	28	1,448,260
Iowa	28	29	1,402,284
Oregon	29	30	1,375,230
Mississippi	30	31	1,288,018
Arkansas	31	32	1,257,251
Kansas	32	33	1,218,326
New Mexico	33	35	834,081
West Virginia	34	34	828,660
Utah	35	37	769,084
Nebraska	36	36	768,268
Nevada	37	38	665,955
Maine	38	39	608,149
New Hampshire	39	40	522,166
Idaho	40	41	499,359
Maine	41	42	446,668
Hawaii	42	44	401,050
South Dakota	43	43	397,442
Rhode Island	44	45	373,065
North Dakota	45	46	354,545
Delaware	46	47	333,571
Wyoming	47	48	303,076
Vermont	48	49	292,321
Alaska	49	50	244,235
New York(b)	—	4	—
Dist. of Col.	—	—	—

(a) Includes some *NPN* projections due to late reporting. (b) Data not available due to nonreporting.
Source: Federal Highway Administration, Monthly Motor Fuel Reported by States, March 1992.

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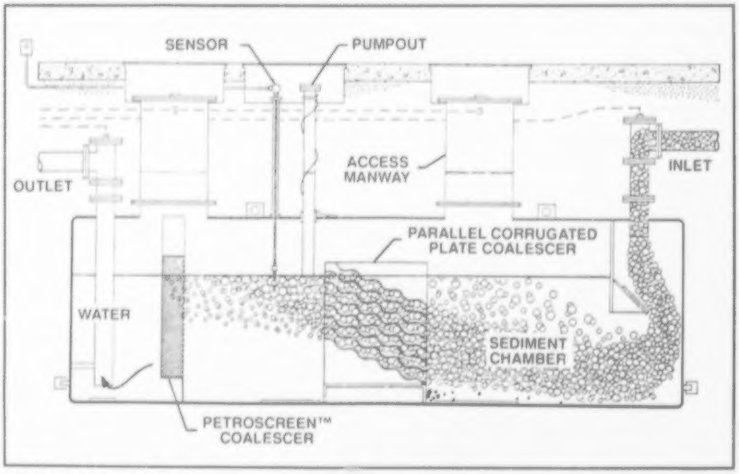

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Gasohol Consumption by Month, 1990 (a)

(Add 000 gal.)

State	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Alabama	13,974	10,483	24,589	16,826	22,507	11,267	18,883	10,304	8,422	22,048	20,340	18,213	197,856
Alaska	—	—	—	—	—	—	—	—	—	—	—	—	—
Arizona	—	—	—	—	—	—	—	—	—	—	—	—	—
Arkansas	5,167	5,167	5,167	5,167	5,167	5,167	5,167	5,167	5,167	5,167	5,167	5,167	62,004
California	28,155	26,876	30,978	29,052	28,267	36,868	31,558	37,059	48,421	57,541	60,382	64,559	479,716
Colorado	7,168	6,970	4,763	6,299	8,387	6,522	6,356	7,032	6,309	13,212	11,837	12,408	97,263
Connecticut	—	—	—	—	—	—	—	—	—	—	—	—	—
Delaware	—	—	—	—	—	—	—	—	—	—	—	—	—
Dist. of Col.	—	—	—	—	—	—	—	—	—	—	—	—	—
Florida	6,177	6,069	5,860	6,782	6,388	6,742	6,793	6,904	15,989	5,126	-1,690	6,418	77,558
Georgia	3,096	3,035	6,869	9,270	9,390	9,229	9,656	8,227	7,518	7,584	7,507	7,291	88,672
Hawaii	—	—	—	—	—	—	—	—	—	—	—	—	—
Idaho	4,086	6,172	5,194	5,326	6,576	3,886	5,595	6,716	6,688	7,085	6,222	6,653	70,199
Illinois	98,527	97,950	113,476	105,826	122,915	119,232	120,441	122,094	109,957	127,772	126,146	123,750	1,388,086
Indiana	49,958	49,958	49,958	46,404	46,404	46,404	64,491	64,491	64,491	51,926	51,926	51,926	638,337
Iowa	30,311	28,024	29,762	34,474	31,971	27,530	34,416	30,032	26,321	36,912	28,857	36,287	374,897
Kansas	7,079	7,042	8,071	7,264	6,664	5,972	5,939	5,496	4,746	5,137	4,929	5,632	73,971
Kentucky	20,954	32,955	34,322	31,238	31,429	25,097	33,622	29,471	26,770	34,405	20,517	35,207	355,987
Louisiana	1,973	4,593	3,147	1,981	2,341	2,476	2,845	2,232	3,890	4,409	3,674	5,199	38,760
Maine	—	—	—	—	—	—	—	—	—	—	—	—	—
Maryland	—	—	—	—	—	—	—	—	—	—	—	—	—
Massachusetts	—	—	—	—	—	—	—	—	—	—	—	—	—
Michigan	27,547	30,296	37,623	36,038	44,663	45,138	48,742	48,712	46,731	39,867	49,572	55,518	510,447
Minnesota	13,853	15,505	17,593	18,678	20,805	20,312	20,511	22,122	20,521	23,764	24,410	26,262	244,336
Mississippi	—	—	—	—	—	—	—	—	—	—	—	—	—
Missouri	22,284	22,284	22.284	22,284	22,284	22,284	22,284	22,284	22,284	22,284	22,284	22,284	267,408
Montana	61	25	4	3	26	24	16	18	20	405	123	398	1,123
Nebraska	21,814	21,031	25,068	23,364	25,845	25,281	26,059	25,319	25,783	26,764	25,123	29,181	300,632
Nevada	5,661	5,601	4,632	2,600	2,829	2,146	3,764	2,973	2,837	4,347	5,674	6,103	49,167
New Hampshire	—	—	—	—	—	—	—	—	—	—	—	—	—
New Jersey	—	—	—	—	—	—	—	—	—	—	—	—	—
New Mexico	19,900	16,477	10,509	15,079	13,361	12,304	7,007	10,381	8,512	9,607	16,843	16,955	156,935
New York	—	—	—	—	—	—	—	—	—	—	—	—	—
North Carolina	—	—	—	—	—	—	—	—	—	—	—	—	—
North Dakota	2,501	2,464	2,832	2,933	2,911	3,006	3,187	3,244	2,883	3,066	3,337	3,457	35,821
Ohio	78,788	75,768	87,771	86,766	92,493	94,854	91,586	98,256	86,885	94,254	91,089	93,530	1,072,040
Oklahoma	—	—	—	—	—	—	—	—	—	—	—	—	—
Oregon	—	—	—	—	—	—	—	—	—	—	—	—	—
Pennsylvania	—	—	—	—	—	—	—	—	—	—	—	—	—
Rhode Island	—	—	—	—	—	—	—	—	—	—	—	—	—
South Carolina	8,195	7,447	6,015	4,611	4,598	4,397	3,359	3,030	4,824	6,361	6,189	3,523	62,549
South Dakota	3,843	3,642	4,383	3,959	4,721	4,417	4,839	5,119	4,994	5,808	6,620	7,655	60,000
Tennessee	11,750	565	16,036	12,184	19,590	27,339	40,172	—	3,815	54,045	33,492	27,725	246,713
Texas	20,000	20,000	20,000	20,000	20,000	20,000	24,552	22,280	19,795	20,523	20,083	20,151	247,384
Utah	42	33	50	42	42	58	34	42	41	25	42	34	485
Vermont	—	—	—	—	—	—	—	—	—	—	—	—	—
Virginia	20,646	17,747	18,667	9,480	13,050	14,589	10,202	11,649	9,437	11,924	12,446	11,365	161,202
Washington	5,449	5,414	6,683	6,833	7,802	7,526	8,441	8,210	7,568	8,450	7,303	7,168	86,847
West Virginia	—	—	—	—	—	—	—	—	—	—	—	—	—
Wisconsin	1,732	3,769	7,398	6,886	4,703	7,720	10,390	7,559	7,027	11,134	5,591	9,052	82,961
Wyoming	371	420	442	447	445	314	460	655	453	1,747	1,728	2,031	9,513
U.S. Total	**541,062**	**533,782**	**610,146**	**578,096**	**628,574**	**618,101**	**671,367**	**627,078**	**609,099**	**722,699**	**678,763**	**721,102**	**7,539,169**

(a) Revised.

This table, prepared by the Federal Highway Administration, shows gross gallons of gasohol (ethanol blends) reported by the various states. The data were obtained from the state taxation reports. In states where gasohol is taxed at the same rate as gasoline, some gasohol gallonage may be commingled with gasoline data. This report indicates there was a decrease in gasohol sales in 1990.

Source: Federal Highway Administration, Monthly Motor Fuel Reported by States, December 1991, published March 1992.

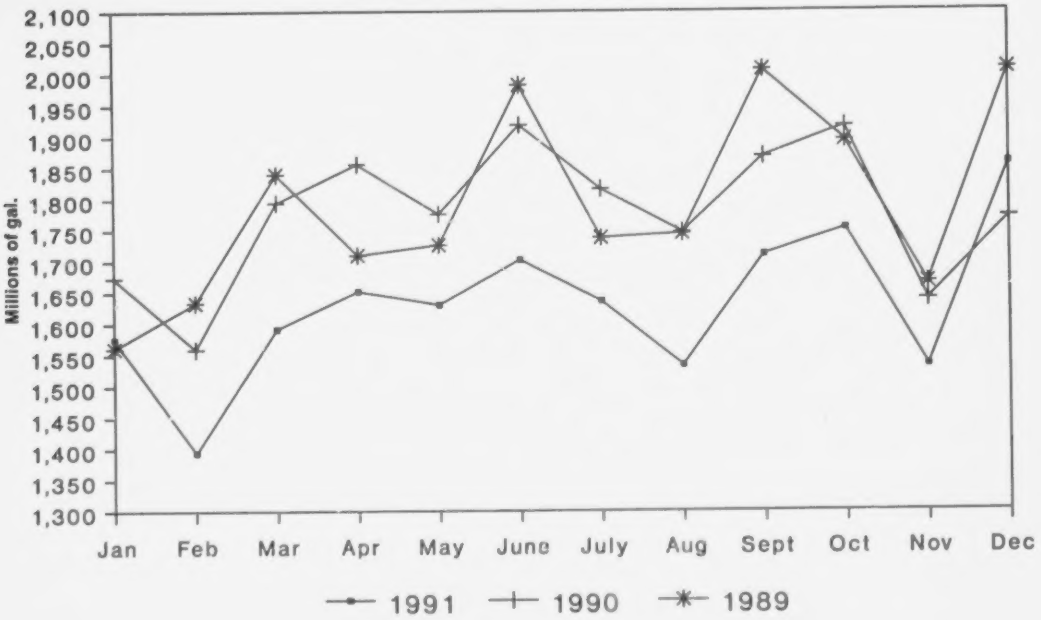
Gasohol Consumption by Month, 1991

(Add 000 gal.)

State	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Alabama	8,450	10,017	10,748	10,102	16,156	19,512	15,334	39,320	19,451	17,373	14,492	13,778	194,733
Alaska	—	—	—	—	—	—	—	—	—	—	—	—	—
Arizona	—	—	—	—	—	—	—	—	—	—	—	—	—
Arkansas	—	—	—	—	7,711	4,264	5,962	5,806	4,863	3,615	2,037	4,380	38,638
California	55,504	52,122	57,701	59,548	58,467	57,650	58,272	57,865	50,836	49,540	19,442	19,912	596,859
Colorado	12,062	10,918	10,644	7,519	7,283	7,095	7,012	7,410	6,581	8,638	7,993	7,689	100,844
Connecticut	—	—	—	—	—	—	—	—	916	9,752	4,478	4,374	19,520
Delaware	—	—	—	—	—	—	—	—	—	—	—	—	—
Dist. of Col.	48	44	43	37	59	39	54	—	—	—	—	—	324
Florida	6,004	7,222	7,190	8,173	7,853	8,127	8,202	8,639	8,856	8,188	8,023	9,079	95,556
Georgia	7,286	7,607	9,908	10,208	10,027	9,512	9,750	10,635	8,514	5,598	3,522	2,413	94,980
Hawaii	—	—	—	—	—	—	—	—	—	—	—	—	—
Idaho	5,829	5,911	5,782	5,176	6,922	6,134	6,631	6,896	7,678	7,622	6,464	7,387	78,432
Illinois	110,489	106,410	120,834	122,631	130,164	126,522	130,792	137,027	125,934	128,681	—	—	1,239,484
Indiana	56,869	56,869	56,869	—	—	—	—	—	—	—	—	—	170,607
Iowa	36,817	31,658	32,965	39,902	42,088	38,015	39,453	44,017	38,543	41,487	38,180	38,850	461,975
Kansas	5,055	4,297	5,992	5,589	6,188	6,317	6,063	5,566	5,800	7,031	6,594	6,750	71,242
Kentucky	23,637	21,410	26,003	15,444	23,190	24,868	21,921	23,068	20,819	78,822	34,341	32,607	346,130
Louisiana	3,260	1,933	3,078	2,357	7,359	8,081	5,933	8,014	7,969	8,899	6,502	8,091	71,470
Maine	—	—	—	—	—	—	—	—	—	—	—	—	—
Maryland	—	—	—	—	—	—	—	—	—	—	—	—	—
Massachusetts	—	—	—	—	—	—	—	—	—	—	—	—	—
Michigan	48,834	47,966	53,225	53,683	58,152	56,361	59,331	64,490	57,251	60,831	56,136	46,726	662,986
Minnesota	24,686	23,645	28,794	31,848	38,376	39,172	42,882	42,679	42,853	32,913	61,390	52,375	461,613
Mississippi	—	—	—	—	—	—	—	—	—	—	—	—	—
Missouri	—	—	—	—	—	—	—	—	—	—	—	—	—
Montana	428	312	402	407	484	474	581	561	458	544	482	493	5,626
Nebraska	25,616	23,913	26,940	28,879	31,384	30,253	31,531	31,252	29,305	31,436	28,451	31,656	350,616
Nevada	6,548	6,606	5,792	5,817	5,128	5,243	5,234	3,918	3,600	5,336	6,633	6,374	66,229
New Hampshire	—	—	—	—	—	—	—	—	—	—	—	—	—
New Jersey	—	—	—	—	—	—	—	—	—	—	—	—	—
New Mexico	18,245	19,501	6,997	10,923	9,184	9,382	10,335	9,165	9,133	9,019	17,745	23,227	152,856
New York	—	—	—	—	—	—	—	—	—	—	—	—	—
North Carolina	3,423	3,285	4,449	4,334	5,070	4,825	4,973	4,740	4,259	5,370	3,615	4,461	52,804
North Dakota	4,033	3,314	4,010	4,030	4,362	4,149	4,917	4,797	4,534	5,167	4,883	5,160	53,356
Ohio	86,601	81,485	91,577	93,291	98,108	95,752	94,020	96,199	90,619	100,420	97,205	91,480	1,116,757
Oklahoma	—	—	—	—	—	—	—	—	—	—	—	—	—
Oregon	—	—	—	—	—	—	—	—	—	—	—	—	—
Pennsylvania	—	—	—	—	—	—	—	—	—	—	—	—	—
Rhode Island	—	—	—	—	—	—	—	—	—	—	—	—	—
South Carolina	60	1	—	—	11	—	—	—	—	—	—	—	72
South Dakota	8,586	7,896	9,583	10,290	11,448	11,812	13,527	12,700	12,061	13,520	12,227	12,599	136,249
Tennessee	27,773	10,720		38,515	11,703	12,078	10,721	10,661	7,043	21,749	14,806	12,604	178,373
Texas	20,151	18,175	21,139	20,032	20,860	19,665	20,785	21,907	20,804	20,080	20,025	20,472	244,095
Utah	41	25	34	13	31	33	—	32	24	17	26	24	300
Vermont	—	—	—	—	—	—	—	—	—	—	—	—	—
Virginia	10,367	9,698	10,680	10,202	10,805	10,930	12,742	17,761	14,951	15,177	14,978	14,677	152,968
Washington	7,073	6,271	7,663	8,441	8,911	8,533	9,151	9,855	8,634	9,147	8,688	8,642	101,009
West Virginia	—	—	—	—	—	—	—	—	—	—	—	—	—
Wisconsin	10,013	9,743	9,040	10,315	12,449	20,587	26,719	12,785	21,841	25,737	22,933	22,816	204,978
Wyoming	1,586	1,845	1,627	2,011	2,172	2,336	3,018	3,464	3,766	3,743	3,036	—	28,604
U.S. Total	**635,374**	**590,819**	**629,709**	**619,717**	**652,105**	**647,721**	**665,846**	**701,229**	**637,890**	**729,452**	**525,327**	**509,096**	**7,544,285**

This table, prepared by Federal Highway Administration, shows gross gallons of gasohol (ethanol blends) reported by the various states. The data are obtained from the state taxation reports. In states where gasohol is taxed at the same rate as gasoline, some gasohol gallonage may be commingled with gasoline data. At any rate, this is a preliminary report and upward revisions may be expected on the basis of later data. This report indicates there was an increase in 1991. *Source: Federal Highway Administration, Monthly Fuel Reported by States 1991.*

Diesel Fuel Consumption Trends



Diesel Fuel Consumption by States 1991

(000 gal.)

	Rank		Gallonage		%
	1991	1992	1991(a)	1990(b)	Change
Alabama	12	13	554,549	571,090	(2.9)%
Alaska	43	38	80,574	84,225	(4.3)
Arizona	26	27	300,902	331,389	(9.1)
Arkansas	18	20	387,121	385,803	(0.3)
California	1	1	1,793,825	1,852,610	(3.2)
Colorado	32	33	218,522	206,041	5.1
Connecticut	35	34	154,628	239,239	(35.4)
Delaware	44	45	55,275	53,266	3.8
Dist. of Col.	48	—	22,147	22,820	(2.9)
Florida	7	7	811,285	891,568	(9.0)
Georgia	6	8	862,607	867,437	(0.6)
Hawaii	47	49	26,130	25,796	1.3
Idaho	38	41	127,617	128,236	(0.5)
Illinois	5	3	881,683	970,823	(9.2)
Indiana	8	9	780,539	704,697	10.8
Iowa	25	24	323,634	376,884	(14.1)
Kansas	27	29	279,314	314,068	(11.1)
Kentucky	16	16	418,777	489,653	(14.5)
Louisiana	21	22	370,940	374,599	(1.0)
Maine	40	37	106,743	111,381	(4.2)
Maryland	28	28	272,753	354,729	(23.1)
Massachusetts	29	30	246,476	267,440	(7.9)
Michigan	13	15	538,197	534,549	0.7
Minnisota	20	25	373,357	327,853	13.9
Mississippi	24	26	333,775	328,349	1.7
Missouri	11	12	591,447	549,301	(0.5)
Montana	39	42	116,177	125,346	(7.3)
Nebraska	30	32	222,816	220,951	(0.8)
Nevada	37	40	141,734	134,841	5.1
New Hampshire	42	46	48,896	52,259	(6.4)
New Jersey	17	18	390,811	422,486	(7.5)
New Mexico	31	31	222,041	222,638	—
New York (c)	—	6	—	859,645	—
North Carolina	9	10	661,645	627,675	5.4
North Dakota		44	96,975	93,127	4.1
Ohio	4	4	896,862	964,867	(7.0)
Oklahoma	19	21	377,633	395,776	(4.6)
Oregon(d)	—	—	—	338,952	—
Pennsylvania	3	5	945,371	931,628	1.5
Rhode Island	46	48	39,882*	41,130	(3.0)
South Carolina	23	19	354,025*	422,623	(16.2)
South Dakota	41	43	102,040	100,901	1.1
Tennessee	10	11	594,100	607,876	(2.3)
Texas	2	2	1,562,695	1,426,255	9.6
Vermont	33	35	172,200	180,928	(4.8)
Utah	45	47	41,543	41,937	—
Virginia	14	14	535,410	580,897	(7.8)
Washington	22	23	363,298	357,795	1.5
West Virginia	36	39	147,899	150,241	(1.6)
Wisconsin	15	17	453,744	443,696	2.3
Wyoming	34	36	160,181	176,724	(9.4)
U.S. Total	—	—	**19,560,896**	**21,330,040**	**(8.3)**

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* NPN projection due to late reporting.

(a) Preliminary. (b) Revised. (c) Data not available for 1991 due to nonreporting. (d) Oregon no longer collects diesel fuel data.

Source: Federal Highway Administration, Monthly Motor Fuel Reported by States, 1991.

Highway Diesel Sales by State, 1990

(Add 000 gal.)

	On-Highway			Off-Highway		
	1990	1989	% Change	1990	1989	% Change
PAD District 1						
New England States						
Connecticut	198,547	257,361	(22.9)	16,350	18,713	(12.6)
Maine	168,243	139,908	20.3	6,789	12,836	(47.1)
Massachusetts	261,683	271,944	(3.8)	18,575	18,219	2.0
New Hampshire	51,811	59,561	(13.0)	6,767	7,674	(11.8)
Rhode Island	40,645	52,932	(23.2)	1,885	3,344	(43.6)
Vermont	41,442	46,250	(10.4)	4,576	5,717	(20.0)
Central Atlantic States						
Delaware	52,637	74,089	(29.0)	3,872	4,202	(7.9)
Dist. of Col.	22,551	23,064	(2.2)	55	31	43.6
Maryland	291,462	351,150	(17.0)	26,647	32,165	(17.2)
New Jersey	420,466	453,482	(7.3)	45,042	52,452	(14.1)
New York	907,848	754,276	20.4	37,335	40,298	(7.4)
Pennsylvania	920,344	915,865	0.5	63,406	51,847	22.3
Lower Atlantic States						
Florida	881,047	899,369	(2.0)	60,235	65,627	(8.2)
Georgia	854,952	838,847	1.9	39,995	38,179	4.8
North Carolina	620,268	614,435	0.9	26,584	26,655	(0.3)
South Carolina	417,636	302,614	38.0	29,172	26,601	9.7
Virginia	540,468	537,569	0.5	34,732	36,720	(5.4)
West Virginia	147,981	159,972	(7.4)	20,165	20,358	(0.9)
Total	**6,840,031**	**6,752,738**	**1.3**	**442,182**	**461,638**	**(4.2)**
PAD District 2						
Illinois	1,141,593	839,968	35.9	70,201	37,553	86.9
Indiana	801,335	784,441	2.2	30,797	29,465	4.5
Iowa	372,390	349,044	6.7	10,508	9,595	9.5
Kansas	310,213	303,893	2.1	11,658	12,352	(5.6)
Kentucky	488,180	692,215	(29.5)	20,578	21,811	(5.7)
Michigan	527,744	528,906	(0.2)	37,825	45,397	(16.7)
Minnesota	330,563	331,625	(0.3)	34,479	26,163	31.8
Missouri	587,288	641,680	(8.5)	26,383	21,499	22.7
Nebraska	218,344	208,258	4.8	11,779	17,083	(31.0)
North Dakota	90,699	90,544	0.2	3,719	4,509	(17.5)
Ohio	923,811	960,195	(3.8)	30,823	27,963	10.2
Oklahoma	380,222	394,174	(3.5)	27,939	22,047	26.7
South Dakota	99,095	91,221	8.6	5,947	5,642	5.4
Tennessee	605,871	587,396	3.1	42,768	26,619	60.7
Wisconsin	438,460	449,764	(2.5)	41,705	32,652	27.7
Total	**7,315,808**	**7,253,324**	**0.9**	**407,109**	**340,350**	**19.6**
PAD District 3						
Alabama	564,351	544,882	3.6	63,954	63,870	0.1
Arkansas	383,712	395,236	(2.9)	36,274	32,128	13.0
Louisiana	434,629	385,621	12.7	61,781	54,974	12.4
Mississippi	310,708	302,523	2.7	29,248	33,576	(12.9)
New Mexico	220,011	205,916	6.8	24,773	21,484	15.3
Texas	1,384,705	1,387,059	(0.2)	201,793	170,936	18.1
Total	**3,298,116**	**3,221,237**	**2.3**	**417,823**	**376,968**	**10.8**
PAD District 4						
Colorado	217,149	185,519	17.0	28,945	27,355	5.8
Idaho	126,723	117,246	8.1	19,254	13,872	38.8
Montana	123,867	119,503	3.7	13,332	15,989	(16.6)
Utah	178,793	125,184	42.8	17,550	18,551	(5.4)
Wyoming	174,639	187,452	(6.8)	20,966	17,844	17.5
Total	**821,171**	**734,904**	**11.7**	**100,047**	**93,611**	**6.9**
PAD District 5						
Alaska	82,538	96,446	(14.4)	16,136	13,980	15.4
Arizona	331,183	314,671	5.2	41,155	37,978	8.4
California	1,819,718	1,913,647	(4.9)	223,469	193,260	15.6
Hawaii	24,968	23,717	5.3	11,386	5,428	109.8
Nevada	133,250	131,055	16.7	21,031	24,066	(12.6)
Oregon	334,950	311,843	7.4	38,126	44,577	(14.5)
Washington	358,744	378,110	(5.1)	57,885	45,640	21.2
Total	**3,085,351**	**3,169,489**	**(2.7)**	**409,188**	**364,929**	**12.1**
U.S. Total	**21,360,477**	**21,131,692**	**1.1**	**1,776,349**	**1,637,496**	**8.5**

Source: Energy Information Administration, Fuel Oil and Kerosine Sales 1990, October 1990.

Diesel Fuel Consumption by Month, 1990 (a)

(Add 000 gal.)

State	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Alabama	56,959	33,964	47,493	62,250	40,023	49,349	48,086	50,895	40,455	61,199	37,857	42,560	571,090
Alaska	15,067	4,628	4,559	2,382	9,209	1,225	3,589	—	18,225	17,652	7,594	95	84,225
Arizona	38,760	17,131	25,099	24,822	25,274	26,332	29,637	25,023	39,361	30,477	21,400	28,073	331,389
Arkansas	28,132	34,692	25,153	30,822	41,104	32,432	37,775	19,689	42,265	36,621	11,018	46,100	385,803
California	135,026	135,123	169,945	151,114	156,012	163,431	155,416	157,459	165,017	145,129	137,466	181,472	1,852,610
Colorado	12,508	15,231	14,175	15,423	17,138	15,851	18,540	22,383	17,576	20,312	19,799	17,105	206,041
Connecticut	15,764	14,957	27,368	16,205	17,666	26,413	16,372	18,720	26,051	18,897	16,622	24,204	239,239
Delaware	5,218	3,911	3,426	4,215	5,245	3,984	5,890	4,487	2,704	6,373	4,507	3,306	53,266
Dist. of Col.	1,974	1,783	1,925	1,918	1,840	1,732	2,121	2,087	1,744	1,993	1,859	1,844	22,820
Florida	72,897	74,945	86,733	79,975	71,218	79,678	69,563	58,805	79,706	59,573	76,086	82,389	891,568
Georgia	65,551	68,065	74,895	72,606	85,462	76,319	69,972	75,059	69,647	74,830	63,787	71,244	867,437
Hawaii	2,184	1,999	1,936	2,471	1,962	2,333	2,170	2,107	2,352	2,105	2,101	2,076	25,796
Idaho	14,211	10,682	5,465	11,003	14,492	4,840	14,161	12,915	7,300	13,727	8,676	10,764	128,236
Illinois	60,974	62,896	107,826	68,725	70,703	114,888	68,197	59,574	108,118	72,455	70,929	105,538	970,823
Indiana	38,150	56,791	66,302	65,014	65,567	67,758	69,148	70,334	24,353	77,580	69,159	34,541	704,697
Iowa	28,921	25,406	31,477	30,086	28,275	41,984	31,402	27,320	41,454	34,285	24,724	31,550	376,884
Kansas	21,988	24,296	20,777	30,624	24,938	21,789	37,151	21,018	32,268	29,768	13,746	35,705	314,068
Kentucky	43,960	47,307	24,703	47,207	46,601	39,450	42,006	47,056	26,542	31,681	44,998	48,142	489,653
Louisiana	20,986	16,711	43,698	51,911	34,806	40,435	28,454	27,784	41,912	32,012	25,860	10,030	374,599
Maine	12,762	10,780	3,602	14,479	14,192	2,453	13,449	3,813	16,003	4,719	6,066	9,063	111,381
Maryland	26,130	19,873	39,367	23,270	26,524	41,462	22,621	25,824	40,356	26,344	25,455	37,503	354,729
Massachusetts	24,719	15,924	21,865	25,384	22,820	25,093	18,195	20,134	25,109	23,191	17,766	27,240	267,440
Michigan	30,063	29,584	61,196	37,346	36,253	67,600	39,462	31,909	70,603	35,526	31,986	63,021	534,549
Minnesota	22,916	24,040	23,108	25,806	29,546	27,453	27,751	31,609	31,182	31,240	28,778	24,424	327,853
Mississippi	27,612	21,350	27,585	33,032	24,268	28,752	28,674	26,351	30,652	33,193	23,327	23,553	328,349
Missouri	45,790	48,404	44,400	38,635	42,556	56,770	47,579	57,571	60,682	58,144	41,094	52,676	594,301
Montana	12,085	7,660	8,449	11,786	8,105	11,528	15,515	5,076	12,934	12,808	9,453	9,947	125,346
Nebraska	13,534	15,425	19,711	17,546	20,746	20,646	20,040	18,815	19,112	20,159	16,745	18,472	220,951
Nevada	8,218	8,066	15,669	6,925	8,795	15,703	8,529	11,451	15,869	9,591	16,252	9,773	134,841
New Hampshire	6,843	3,121	3,701	6,008	2,983	4,191	6,187	2,141	4,114	5,965	3,853	3,152	52,259
New Jersey	30,354	33,506	36,810	33,980	42,012	32,778	34,454	36,953	32,217	37,708	47,320	24,394	422,486
New Mexico	42,525	12,949	—	43,003	11,205	1,583	30,835	24,607	805	43,946	10,559	621	222,638
New York	69,548	60,124	58,368	83,368	81,769	77,813	76,514	80,987	70,807	79,085	60,058	61,204	859,645
North Carolina	45,323	43,096	44,016	71,324	52,612	55,680	47,941	55,102	59,764	51,340	45,788	55,689	627,675
North Dakota	7,127	5,318	5,803	9,636	8,843	9,108	8,647	7,211	7,719	7,997	8,713	7,005	93,127
Ohio	91,730	88,646	88,539	78,361	68,486	83,590	81,233	70,487	76,337	90,996	78,011	68,451	964,867
Oklahoma	28,602	31,611	34,156	35,115	30,264	36,274	34,871	32,013	36,562	33,244	29,852	33,212	395,776
Oregon	28,246	28,246	28,246	28,246	28,246	28,246	28,246	28,246	28,246	28,246	28,246	28,246	338,952
Pennsylvania	76,671	72,969	75,983	80,312	84,142	77,140	79,221	85,131	71,947	86,219	78,279	63,614	931,628
Rhode Island	2,926	2,926	2,926	3,933	3,933	3,933	3,334	3,334	3,334	3,517	3,517	3,517	41,130
South Carolina	15,665	47,689	30,954	46,160	33,641	43,558	31,541	32,792	38,656	33,754	30,255	37,958	422,623
South Dakota	8,475	7,492	8,350	8,029	7,967	7,858	8,350	9,081	8,331	10,151	9,188	7,629	100,901
Tennessee	45,462	36,133	55,879	51,061	49,557	59,484	53,171	42,982	57,561	57,983	45,063	53,540	607,876
Texas	114,653	94,124	125,805	113,998	109,175	139,017	115,092	131,227	116,983	130,787	111,785	123,609	1,426,255
Utah	20,671	10,985	2,839	8,134	23,346	2,773	27,446	19,928	14,413	27,318	14,340	8,735	180,928
Vermont	3,120	3,676	5,203	1,678	5,815	2,859	491	5,599	2,844	3,790	3,355	3,507	41,937
Virginia	46,463	43,027	48,077	51,742	46,096	57,015	47,547	51,946	42,889	53,676	50,243	42,176	580,897
Washington	23,671	20,640	34,088	34,614	21,308	31,812	39,730	21,070	33,622	30,354	35,280	31,606	357,795
West Virginia	13,787	11,119	12,873	12,638	16,719	6,926	15,291	12,713	8,402	17,792	9,988	11,993	150,241
Wisconsin	36,344	35,581	30,140	37,604	40,661	33,227	39,582	41,465	33,808	42,764	40,947	31,573	443,696
Wyoming	11,909	14,592	14,229	14,795	15,655	15,951	14,770	15,650	8,612	17,777	17,408	15,376	176,724
U.S. Total	**1,673,174**	**1,559,194**	**1,794,892**	**1,856,721**	**1,775,775**	**1,918,499**	**1,815,959**	**1,745,933**	**1,867,525**	**1,915,993**	**1,637,158**	**1,769,217**	**21,330,040**

(a) Revised.

This table, prepared by the Federal Highway Administration, shows gross gallons of special fuels, but this is primarily diesel fuel. Included are small amounts of liquefied petroleum gases. In most cases, FHA says, the data reflect retail sales for the year.

Source: Federal Highway Administration, Monthly Motor Fuel Reported by States, December 1991, published March 1992.

Diesel Fuel Consumption by Month, 1991

(Add 000 gal.)

State	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Alabama	54,872	32,119	44,710	52,758	49,849	42,398	46,562	40,306	42,874	56,223	45,981	45,997	554,649
Alaska	2,525	—	2,921	30,365	—	6,253	11,979	7,084	6,820	5,575	4,842	2,210	80,574
Arizona	30,111	27,826	24,804	27,981	19,145	29,138	15,956	18,013	24,673	26,050	26,359	30,846	300,902
Arkansas	28,704	32,720	24,627	39,975	26,170	40,888	38,809	17,437	43,074	18,130	44,871	31,716	387,121
California	121,112	137,712	139,598	124,878	159,407	151,127	139,194	145,184	168,176	136,932	133,549	236,956	1,793,825
Colorado	18,752	15,661	16,116	17,667	18,486	17,821	18,573	19,897	19,551	19,593	19,900	16,505	218,522
Connecticut	11,479	13,218	19,161	11,318	11,395	12,113	11,645	15,576	12,509	14,397	9,796	12,021	154,628
Delaware	4,865	4,139	3,926	5,338	5,187	3,585	5,660	3,821	3,212	6,155	6,310	3,077	55,275
Dist. of Col.	1,905	1,718	1,674	1,899	2,000	1,779	2,013	1,966	1,628	1,925	1,757	1,883	22,147
Florida	67,072	70,249	71,913	71,891	71,377	73,255	56,830	65,706	55,301	65,233	71,959	70,499	811,285
Georgia	75,479	58,763	71,838	76,684	74,279	77,023	73,918	63,346	73,127	77,633	69,949	70,568	862,607
Hawaii	1,810	2,586	1,922	2,205	2,155	1,932	2,353	2,231	2,128	2,393	1,979	2,436	26,130
Idaho	10,554	15,448	6,715	8,499	12,429	4,668	13,137	13,012	7,810	12,437	8,408	14,500	127,617
Illinois	54,672	49,717	100,199	60,200	59,832	99,333	60,940	58,988	103,310	70,009	60,692	103,791	881,683
Indiana	84,086	93,717	46,246	44,629	75,924	57,119	80,855	49,137	42,185	81,752	77,681	47,208	780,539
Iowa	26,285	20,225	28,386	26,892	26,141	29,177	26,172	25,119	33,254	29,439	25,486	27,058	323,634
Kansas	18,156	21,450	15,591	29,709	20,290	23,517	22,200	17,218	30,093	13,698	28,448	38,944	279,314
Kentucky	36,607	20,395	19,030	40,150	45,093	30,552	27,956	40,395	24,714	52,642	25,905	55,338	418,777
Louisiana	10,479	19,751	42,184	28,173	25,456	43,306	32,812	32,503	42,513	29,912	26,643	37,208	370,940
Maine	8,653	4,503	10,926	11,991	1,574	11,854	11,610	8,427	8,978	11,511	9,400	7,316	106,743
Maryland	18,016	21,130	21,232	24,218	27,102	23,621	22,451	21,179	23,687	26,494	21,998	21,625	272,753
Massachusetts	15,689	19,168	19,501	15,519	28,543	22,281	16,971	15,807	23,860	25,336	19,590	24,211	246,476
Michigan	32,407	30,737	60,909	30,149	35,916	71,728	28,243	39,735	74,189	28,989	20,632	84,563	538,197
Minnesota	23,881	24,809	24,620	27,406	27,784	38,895	29,754	29,180	32,116	52,880	31,597	30,435	373,357
Mississippi	29,484	20,032	23,911	34,023	22,209	28,994	30,179	27,161	29,617	36,596	23,949	27,620	333,775
Missouri	50,609	28,367	53,715	42,082	52,460	47,993	46,340	50,878	62,796	56,141	45,457	54,609	591,447
Montana	11,260	7,526	6,534	9,693	6,111	15,540	5,864	10,496	11,926	8,476	12,735	10,016	116,177
Nebraska	18,110	15,309	16,714	20,360	19,237	18,310	19,905	18,490	18,374	21,774	19,451	16,782	222,816
Nevada	8,427	13,609	11,080	8,270	14,881	9,887	10,824	17,627	9,514	11,204	10,587	15,824	141,734
New Hampshire	5,966	2,694	3,926	6,083	2,347	3,769	5,878	2,352	4,663	5,258	2,252	3,708	48,896
New Jersey	29,909	36,777	26,070	32,814	45,655	29,077	32,276	35,905	25,703	31,380	39,717	25,528	390,811
New Mexico	42,280	12,389	1,365	44,740	4,907	5,286	50,958	4,519	134	51,437	1,982	2,044	222,041
New York (a)	—	—	—	—	—	—	—	—	—	—	—	—	—
North Carolina	46,182	37,785	53,462	50,008	49,780	53,802	47,911	53,062	55,815	43,487	57,026	113,325	661,645
North Dakota	7,895	4,094	7,177	7,808	8,796	8,656	8,056	9,229	9,196	9,080	9,534	7,454	96,975
Ohio	84,832	55,302	75,077	79,554	71,563	80,374	79,267	68,360	79,730	89,606	52,862	80,336	896,863
Oklahoma	31,395	25,856	28,561	33,030	35,117	32,159	32,950	29,964	33,783	30,908	32,246	31,664	377,633
Oregon (b)	—	—	—	—	—	—	—	—	—	—	—	—	—
Pennsylvania	78,166	70,159	72,807	79,597	81,327	81,592	77,534	81,804	80,193	85,645	75,922	80,625	945,371
Rhode Island	3,071	3,071	3,071	3,485	3,485	3,485	3,369	3,369	3,369	3,369*	3,369*	3,369*	39,882
South Carolina	26,065	28,304	37,231	25,538	31,585	28,148	29,644	29,502	29,502*	29,502*	29,502*	29,502*	354,025
South Dakota	8,619	7,737	8,568	7,858	8,185	8,294	8,846	8,668	8,676	9,863	8,689	8,037	102,040
Tennessee	50,983	37,276	52,705	56,268	43,876	60,526	51,372	37,870	54,036	57,412	44,403	47,373	594,100
Texas	117,805	118,330	144,955	138,820	147,674	135,732	130,044	126,038	133,212	121,317	114,787	133,981	1,562,695
Utah	17,883	11,310	11,445	13,239	17,882	9,628	26,089	10,640	10,087	24,953	10,646	8,398	172,200
Vermont	1,887	3,664	2,939	2,984	6,888	3,155	1,632	4,733	3,125	1,754	3,977	4,805	41,543
Virginia	42,783	40,199	52,412	45,942	40,857	45,062	44,366	49,107	41,206	48,996	43,153	41,327	535,410
Washington	36,549	22,526	27,386	37,552	25,461	19,955	26,408	35,393	39,258	30,305	31,445	31,060	363,298
West Virginia	13,920	9,455	11,753	12,174	11,552	14,688	12,769	8,878	16,781	15,417	10,470	10,042	147,899
Wisconsin	39,673	33,108	30,010	37,996	40,065	33,247	39,278	41,224	40,922	44,727	37,783	35,711	453,744
Wyoming	13,224	11,678	9,986	11,372	11,967	11,149	16,170	16,041	7,755	17,547	16,646	16,646*	160,181
U.S. Total	**1,575,148**	**1,394,318**	**1,591,609**	**1,651,784**	**1,629,401**	**1,701,871**	**1,634,522**	**1,532,577**	**1,709,155**	**1,751,492**	**1,532,322**	**1,856,697**	**19,560,896**

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* NPN estimates due to late reporting. (a) Data not available for 1992 due to nonreporting. (b) Oregon no longer collects diesel data.

This table, prepared by the Federal Highway Administration, shows gross gallons of special fuels, but this is primarily diesel fuel. Included are small amounts of liquefied petroleum gases. This is a preliminary report for 1991.

Source: Federal Highway Administration, Motor Fuel Reported by States 1991, and some estimates by NPN.

U.S. Retail Gasoline Prices, 1991 (a)

By Population Size and Region

All Types

Population Sizes and Regions	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average Per Day
U.S. City Average	**$1.304**	**$1.198**	**$1.138**	**$1.159**	**$1.209**	**$1.214**	**$1.185**	**$1.196**	**$1.199**	**$1.180**	**$1.193**	**$1.182**	**$1.200**
Region Area and Size													
Northeast Urban	1.373	1.253	1.211	1.233	1.269	1.280	1.271	1.268	1.289	1.271	1.271	1.269	1.270
Size A - More than 1,200,000	1.369	1.251	1.210	1.234	1.274	1.284	1.276	1.271	1.290	1.274	1.272	1.272	1.270
Size B - 500,000 to 1,200,000	1.387	1.266	1.226	1.252	1.281	1.297	1.279	1.276	1.295	1.271	1.275	1.266	1.280
Size C - 50,000 to 500,000	1.341	1.207	1.155	1.168	1.205	1.216	1.192	1.196	1.250	1.228	1.247	1.242	1.220
North Central Urban	1.252	1.176	1.128	1.175	1.221	1.217	1.175	1.202	1.169	1.143	1.171	1.150	1.180
Size A - More than 1,200,000	1.278	1.193	1.140	1.187	1.234	1.234	1.184	1.229	1.186	1.161	1.194	1.175	1.190
Size B - 360,000 to 1,200,000	1.183	1.154	1.086	1.127	1.187	1.214	1.177	1.172	1.176	1.129	1.142	1.126	1.160
Size C - 50,000 to 360,000	1.221	1.135	1.124	1.179	1.216	1.204	1.169	1.164	1.115	1.109	1.139	1.117	1.160
Size D - Non-Metro. (less than 50,000)	1.238	1.161	1.122	1.166	1.204	1.161	1.136	1.170	1.138	1.118	1.143	1.110	1.160
South Urban	1.297	1.188	1.132	1.144	1.198	1.204	1.176	1.182	1.184	1.170	1.181	1.171	1.190
Size A - More than 1,200,000	1.297	1.185	1.116	1.110	1.173	1.186	1.156	1.161	1.177	1.166	1.174	1.174	1.170
Size B - 450,000 to 1,200,000	1.309	1.196	1.149	1.161	1.214	1.223	1.200	1.210	1.204	1.184	1.196	1.184	1.200
Size C - 50,000 to 450,000	1.266	1.172	1.123	1.165	1.204	1.199	1.166	1.172	1.167	1.155	1.175	1.151	1.180
Size D - Non-Metro. (less than 50,000)	1.339	1.216	1.176	1.186	1.236	1.227	1.208	1.209	1.202	1.181	1.179	1.171	1.260
West Urban	1.312	1.189	1.088	1.090	1.153	1.161	1.129	1.143	1.178	1.159	1.162	1.155	1.160
Size A - More than 1,250,000	1.308	1.179	1.075	1.091	1.168	1.183	1.145	1.157	1.191	1.173	1.174	1.174	1.170
Size C - 50,000 to 330,000	1.261	1.172	1.076	1.078	1.120	1.154	1.129	1.160	1.195	1.161	1.192	1.130	1.150

Unleaded Regular

Population Sizes and Regions	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average Per Day
U.S. City Average	**$1.247**	**$1.143**	**$1.082**	**$1.104**	**$1.156**	**$1.160**	**$1.127**	**$1.140**	**$1.143**	**$1.122**	**$1.134**	**$1.123**	**$1.140**
Region Area and Size													
Northeast Urban	1.299	1.179	1.136	1.159	1.196	1.210	1.193	1.191	1.213	1.191	1.192	1.191	1.200
Size A - More than 1,200,000	1.288	1.172	1.126	1.152	1.192	1.206	1.189	1.187	1.205	1.184	1.184	1.186	1.190
Size B - 500,000 to 1,200,000	1.343	1.228	1.188	1.212	1.235	1.250	1.232	1.227	1.246	1.220	1.224	1.215	1.240
Size C - 50,000 to 500,000	1.286	1.147	1.093	1.106	1.152	1.160	1.131	1.137	1.194	1.170	1.176	1.170	1.600
North Central Urban	1.211	1.136	1.088	1.135	1.182	1.178	1.136	1.163	1.132	1.105	1.134	1.112	1.140
Size A - More than 1,200,000	1.232	1.145	1.097	1.142	1.190	1.190	1.142	1.186	1.149	1.118	1.152	1.133	1.160
Size B - 360,000 to 1,200,000	1.143	1.116	1.043	1.092	1.152	1.177	1.138	1.133	1.139	1.094	1.105	1.092	1.120
Size C - 50,000 to 360,000	1.181	1.102	1.080	1.135	1.170	1.160	1.128	1.121	1.072	1.070	1.102	1.075	1.120
Size D - Non-Metro. (less than 50,000)	1.216	1.146	1.105	1.151	1.189	1.145	1.117	1.153	1.125	1.102	1.126	1.097	1.140
South Urban	1.227	1.123	1.062	1.074	1.130	1.135	1.105	1.113	1.114	1.099	1.110	1.110	1.120
Size A - More than 1,200,000	1.229	1.115	1.042	1.036	1.105	1.119	1.086	1.091	1.104	1.094	1.099	1.100	1.100
Size B - 450,000 to 1,200,000	1.239	1.127	1.075	1.085	1.138	1.149	1.123	1.131	1.131	1.107	1.118	1.107	1.130
Size C - 50,000 to 450,000	1.203	1.115	1.062	1.103	1.144	1.135	1.102	1.112	1.104	1.090	1.112	1.088	1.110
Size D - Non-Metro. (less than 50,000)	1.264	1.171	1.122	1.122	1.173	1.169	1.145	1.153	1.145	1.124	1.118	1.110	1.150
West Urban	1.277	1.150	1.049	1.052	1.117	1.123	1.088	1.103	1.140	1.118	1.121	1.112	1.120
Size A - More than 1,250,000	1.271	1.133	1.030	1.047	1.131	1.145	1.100	1.114	1.151	1.128	1.130	1.127	1.130
Size C - 50,000 to 330,000	1.226	1.142	1.054	1.059	1.103	1.136	1.111	1.134	1.173	1.136	1.166	1.110	1.130

Unleaded Premium

Population Sizes and Regions	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average Per Day
U.S. City Average	**$1.431**	**$1.321**	**$1.264**	**$1.281**	**$1.331**	**$1.338**	**$1.313**	**$1.318**	**$1.324**	**$1.307**	**$1.318**	**$1.309**	**$1.320**
Region Area and Size													
Northeast Urban	1.495	1.376	1.335	1.356	1.394	1.401	1.403	1.400	1.419	1.402	1.403	1.400	1.370
Size A - More than 1,200,000	1.499	1.382	1.341	1.362	1.402	1.407	1.412	1.409	1.425	1.409	1.408	1.405	1.410
Size B - 500,000 to 1,200,000	1.489	1.363	1.322	1.355	1.396	1.412	1.397	1.396	1.413	1.393	1.397	1.391	1.390
Size C - 50,000 to 500,000	1.465	1.341	1.297	1.308	1.332	1.339	1.326	1.327	1.373	1.354	1.374	1.369	1.350
North Central Urban	1.385	1.301	1.256	1.294	1.343	1.346	1.294	1.319	1.291	1.271	1.295	1.288	1.310
Size A - More than 1,200,000	1.414	1.332	1.276	1.312	1.362	1.368	1.310	1.354	1.320	1.298	1.327	1.313	1.330
Size B - 360,000 to 1,200,000	1.310	1.283	1.219	1.254	1.314	1.341	1.304	1.299	1.306	1.257	1.271	1.259	1.280
Size C - 50,000 to 360,000	1.339	1.211	1.237	1.279	1.321	1.307	1.261	1.254	1.216	1.206	1.123	1.110	1.260
Size D - Non-Metro. (less than 50,000)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
South Urban	1.410	1.298	1.242	1.252	1.305	1.314	1.286	1.285	1.291	1.275	1.286	1.278	1.290
Size A - More than 1,200,000	1.409	1.302	1.234	1.226	1.282	1.295	1.269	1.257	1.283	1.272	1.279	1.279	1.280
Size B - 450,000 to 1,200,000	1.417	1.305	1.260	1.268	1.327	1.339	1.314	1.323	1.316	1.291	1.304	1.297	1.310
Size C - 50,000 to 450,000	1.393	1.289	1.230	1.274	1.315	1.316	1.280	1.286	1.282	1.266	1.285	1.260	1.290
Size D - Non-Metro. (less than 50,000)	1.433	1.279	1.241	1.259	1.312	1.300	1.283	1.282	1.277	1.258	1.267	1.265	1.290
West Urban	1.444	1.326	1.228	1.229	1.288	1.297	1.270	1.283	1.312	1.297	1.297	1.289	1.300
Size A - More than 1,250,000	1.434	1.312	1.213	1.224	1.293	1.306	1.277	1.292	1.319	1.305	1.305	1.297	1.300
Size C - 50,000 to 330,000	1.381	1.305	1.281	1.192	1.224	1.259	1.223	1.259	1.289	1.261	1.292	1.243	1.260

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a) These prices are in $/gal., include federal and state taxes, and are representative full-service, self-service and mini-service.

The related local areas and population groups are Standard Metropolitan Statistical Areas as defined by the Bureau of Labor Statistics and the U.S. Census Bureau.

Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

Retail Gasoline Prices For Selected Areas, 1989–1991 (a)

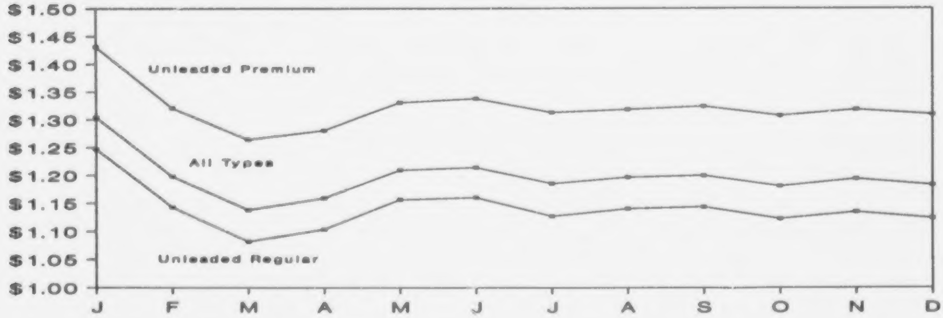
	1991				1990				1989			
Standard Metropolitan Statistical Areas	Lead Reg. (b)	Unld. Reg.	Unld. Prem.	All Types	Lead Reg.	Unld. Reg.	Unld. Prem.	All Types	Lead Reg.	Unld. Reg.	Unld. Prem.	All Types
U.S. City Average	N/A	$1.133	$1.307	$1.198	$0.960	$1.015	$1.200	$1.059	$0.960	$1.015	$1.200	$1.059
Chicago-Gary-Lake County, IL, IN, WI	N/A	1.247	1.417	1.297	N/A	1.278	1.471	1.334	1.010	1.107	1.308	1.143
Los Angeles-Anaheim-Riverside, CA	N/A	1.074	1.255	1.144	1.123	1.140	1.333	1.181	0.696	0.986	1.188	1.010
N.Y.-No. N.J.-Long Island, NY, NJ, CT	N/A	1.189	1.412	1.284	N/A	1.157	1.386	1.250	1.004	1.039	1.243	1.114
Phil.-Wilmington-Trenton, PA, NJ, DE, MD	N/A	1.147	1.360	1.238	N/A	1.056	1.368	1.245	0.942	0.979	1.209	1.068
San Francisco-Oakland-San Jose, CA	N/A	1.184	1.301	1.200	1.129	1.240	1.350	1.240	0.976	1.078	1.188	1.082
Baltimore, MD	N/A	1.112	1.303	1.198	N/A	1.158	1.336	1.238	N/A	1.041	1.220	1.102
Boston-Lawrence-Salem, MA, NH	N/A	1.238	1.434	1.302	N/A	1.186	1.387	1.255	0.972	1.027	1.216	1.078
Cleveland-Akron-Lorain, OH	N/A	1.035	1.073	1.045	N/A	1.179	1.391	1.231	N/A	1.018	1.223	1.068
Miami-Fort Lauderdale, FL	N/A	1.091	1.268	1.165	N/A	1.099	1.275	1.174	N/A	0.995	1.136	1.055
St. Louis-East St. Louis, MO, IL	N/A	1.033	1.234	1.096	0.978	1.084	1.327	1.132	0.945	0.958	1.195	0.988
Washington, DC, MD, VA	N/A	1.181	1.439	1.368	N/A	1.250	1.509	1.328	N/A	1.108	1.370	1.185
Dallas-Fort Worth, TX	N/A	1.119	1.244	1.167	N/A	1.093	1.252	1.134	0.955	0.936	1.068	0.963
Detroit-Ann Arbor, MI	N/A	1.109	1.250	1.132	N/A	1.156	1.301	1.173	0.948	1.026	1.153	1.033
Houston-Galveston-Brazoria, TX	N/A	1.116	1.299	1.168	N/A	1.119	1.315	1.176	0.868	0.958	1.138	1.002
Pittsburgh-Beaver Valley, PA	N/A	1.123	1.309	1.159	N/A	1.119	1.306	1.148	0.970	0.966	1.152	0.998

(a) These prices are in $/gal., include federal and state taxes, and are representative full-service and mini-service. The related located areas and population groups are Standard Metropolitan Statistical Areas as defined by the Bureau of Labor Statistics and the U.S. Census Bureau.

(b) Leaded regular prices are no longer collected by the Bureau of Labor Statistics.

Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

U.S. Retail Gasoline Prices, 1991



Wholesale Price Trends, 1982 — 1991

	Refinery Products in Eight Refinery Markets Representing Total U.S.						Crude	
					Average Four Products			
Year	Motor Gasoline ¢/gal.	Kerosine ¢/gal.	Light Fuel ¢/gal.	Heavy Fuel ¢/gal.	¢/gal.	$/bbl.	Eight Eight Areas $/bbl.	Products vs. Crude $/bbl.
1991	64.24	64.79	59.81	40.94	56.61	23.78	N/A	N/A
1990	72.13	73.37	67.82	50.99	65.20	27.38	20.03	N/A
1989	59.15	60.78	56.02	40.87	43.76	18.38	15.85	2.53
1988	50.31	50.72	46.10	38.72	46.22	19.41	12.58	6.83
1987	53.22	56.75	52.25	45.36	50.89	21.37	15.41	5.96
1986	47.74	49.92	44.91	36.23	43.97	18.47	12.51	5.96
1985	81.11	81.69	76.66	56.41	73.06	30.69	24.09	6.60
1984	81.14	84.75	79.62	59.14	74.49	31.29	25.88	5.41
1983	86.97	85.12	80.05	57.30	76.94	32.31	26.19	6.12
1982	94.56	97.18	91.95	57.80	83.27	34.97	28.52	6.45
1981	101.63	101.03	97.20	61.17	88.75	37.28	31.77	5.51

Product figures reflect trends in prices but not the actual sales realization for producers or refiners.

Source: Independent Petroleum Assn. of America.

Retail Gasoline Prices by Month and Grade (a)

All Types

Selected Local Areas	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Avg. per Year
Chicago-Gary-Lake County, IL, IN, WI	$1.398	$1.309	$1.236	$1.247	$1.317	$1.332	$1.289	$1.318	$1.302	$1.258	$1.283	$1.271	**$1.297**
Los Angeles-Anaheim-Riverside, CA	1.260	1.108	1.012	1.066	1.170	1.173	1.126	1.143	1.177	1.164	1.157	1.169	**1.144**
N.Y.-Northern N.J.-Long Island, NY, NJ, CT	1.375	1.262	1.224	1.241	1.281	1.288	1.286	1.288	1.305	1.286	1.289	1.287	**1.284**
Phil.-Wilmington-Trenton, PA, NJ, DE, MD	1.363	1.233	1.188	1.206	1.234	1.233	1.217	1.208	1.247	1.241	1.241	1.243	**1.238**
San Francisco-Oakland-San Jose, CA	1.368	1.245	1.155	1.097	1.171	1.212	1.179	1.187	1.213	1.193	1.187	1.191	**1.200**
Baltimore, MD	1.340	1.220	1.134	1.136	1.180	1.193	1.167	1.179	1.203	1.193	1.216	1.215	**1.198**
Boston-Lawrence-Salem, MA, NH	1.379	1.252	1.208	1.259	1.318	1.350	1.327	1.316	1.318	1.302	1.297	1.300	**1.302**
Cleveland-Akron-Lorain, OH	1.070	1.031	0.984	0.994	1.052	1.092	1.061	1.065	1.079	1.036	1.049	1.024	**1.045**
Miami-Ft. Laurderdale, FL	1.287	1.182	1.113	1.119	1.163	1.169	1.142	1.162	1.181	1.159	1.154	1.149	**1.165**
St. Louis-East St. Louis, MO, IL	1.208	1.106	1.042	1.087	1.120	1.097	1.050	1.118	1.096	1.064	1.090	1.075	**1.096**
Washington, DC, MD, VA	1.438	1.336	1.258	1.250	1.293	1.303	1.284	1.198	1.216	1.203	1.217	1.222	**1.368**
Dallas-Fort Worth, TX	1.299	1.182	1.110	1.084	1.162	1.180	1.145	1.156	1.158	1.171	1.177	1.176	**1.167**
Detroit-Ann Arbor, MI	1.213	1.104	1.093	1.141	1.196	1.166	1.127	1.157	1.096	1.074	1.112	1.104	**1.132**
Houston-Galveston-Brazoria, TX	1.315	1.202	1.081	1.041	1.131	1.181	1.157	1.154	1.183	1.199	1.186	1.191	**1.168**
Pittsburgh-Beaver Valley, PA	1.244	1.125	1.087	1.105	1.137	1.163	1.152	1.139	1.194	1.163	1.205	1.199	**1.159**
Unleaded Regular													
Chicago-Gary-Lake County, IL, IN, WI	1.346	1.258	1.186	1.195	1.265	1.284	1.239	1.269	1.256	1.207	1.232	1.223	**1.247**
Los Angeles-Anaheim-Riverside, CA	1.202	1.030	0.939	0.997	1.110	1.107	1.051	1.073	1.109	1.090	1.084	1.095	**1.074**
N.Y.-Northern N.J.-Long Island, NY, NJ, CT	1.285	1.174	1.127	1.147	1.189	1.201	1.187	1.191	1.205	1.184	1.187	1.188	**1.189**
Phil.-Wilmington-Trenton, PA, NJ, DE, MD	1.275	1.145	1.098	1.118	1.147	1.147	1.124	1.116	1.156	1.146	1.148	1.149	**1.147**
San Francisco-Oakland-San Jose, CA	1.132	1.246	1.151	1.092	1.178	1.228	1.190	1.189	1.225	1.202	1.193	1.187	**1.184**
Baltimore, MD	1.255	1.130	1.045	1.046	1.097	1.116	1.086	1.096	1.118	1.103	1.130	1.126	**1.112**
Boston-Lawrence-Salem, MA, NH	1.315	1.190	1.147	1.197	1.253	1.286	1.257	1.251	1.252	1.230	1.255	1.228	**1.238**
Cleveland-Akron-Lorain, OH	1.055	1.017	0.972	0.985	1.042	1.085	1.050	1.058	1.071	1.027	1.044	1.017	**1.035**
Miami-Ft. Laurderdale, FL	1.215	1.113	1.040	1.045	1.087	1.092	1.067	1.088	1.104	1.086	1.079	1.074	**1.091**
St. Louis-East St. Louis, MO, IL	1.148	1.042	0.982	1.028	1.057	1.035	0.988	1.057	1.029	0.998	1.029	1.011	**1.033**
Washington, DC, MD, VA	1.344	1.236	1.151	1.144	1.199	1.208	1.186	1.118	1.134	1.122	1.135	1.137	**1.181**
Dallas-Fort Worth, TX	1.244	1.132	1.062	1.035	1.119	1.134	1.098	1.109	1.111	1.123	1.130	1.128	**1.119**
Detroit-Ann Arbor, MI	1.197	1.092	1.079	1.126	1.182	1.152	1.114	1.142	1.066	1.028	1.067	1.065	**1.109**
Houston-Galveston-Brazoria, TX	1.260	1.145	1.021	0.990	1.087	1.131	1.103	1.104	1.131	1.146	1.135	1.137	**1.116**
Pittsburgh-Beaver Valley, PA	1.213	1.096	1.058	1.078	1.108	1.136	1.122	1.109	1.163	1.131	1.134	1.126	**1.123**
Unleaded Premium													
Chicago-Gary-Lake County, IL, IN, WI	1.514	1.433	1.360	1.372	1.440	1.451	1.406	1.435	1.417	1.381	1.403	1.390	**1.417**
Los Angeles-Anaheim-Riverside, CA	1.364	1.230	1.122	1.179	1.280	1.273	1.236	1.261	1.292	1.278	1.274	1.270	**1.255**
N.Y.-Northern N.J.-Long Island, NY, NJ, CT	1.504	1.388	1.349	1.365	1.404	1.401	1.419	1.420	1.438	1.415	1.423	1.415	**1.412**
Phil.-Wilmington-Trenton, PA, NJ, DE, MD	1.467	1.361	1.312	1.328	1.351	1.358	1.347	1.338	1.366	1.365	1.362	1.365	**1.360**
San Francisco-Oakland-San Jose, CA	1.460	1.356	1.267	1.203	1.264	1.307	1.283	1.275	1.311	1.301	1.294	1.287	**1.301**
Baltimore, MD	1.447	1.329	1.242	1.245	1.279	1.292	1.269	1.280	1.311	1.303	1.321	1.321	**1.303**
Boston-Lawrence-Salem, MA, NH	1.522	1.382	1.343	1.383	1.446	1.474	1.456	1.446	1.447	1.439	1.432	1.436	**1.434**
Cleveland-Akron-Lorain, OH	1.115	1.071	1.018	1.071	1.080	1.113	1.093	1.088	1.103	1.064	1.066	1.047	**1.073**
Miami-Ft. Laurderdale, FL	1.387	1.279	1.214	1.222	1.269	1.275	1.245	1.264	1.288	1.261	1.259	1.253	**1.268**
St. Louis-East St. Louis, MO, IL	1.337	1.250	1.175	1.215	1.261	1.238	1.189	1.252	1.241	1.204	1.222	1.218	**1.234**
Washington, DC, MD, VA	1.638	1.547	1.484	1.475	1.492	1.503	1.492	1.315	1.332	1.319	1.332	1.339	**1.439**
Dallas-Fort Worth, TX	1.384	1.265	1.187	1.168	1.236	1.258	1.223	1.232	1.230	1.245	1.251	1.252	**1.244**
Detroit-Ann Arbor, MI	1.335	1.199	1.194	1.256	1.300	1.267	1.223	1.265	1.242	1.218	1.246	1.255	**1.250**
Houston-Galveston-Brazoria, TX	1.440	1.324	1.214	1.162	1.271	1.310	1.292	1.281	1.317	1.336	1.316	1.326	**1.299**
Pittsburgh-Beaver Valley, PA	1.406	1.273	1.237	1.248	1.282	1.306	1.304	1.293	1.351	1.324	1.350	1.338	**1.309**

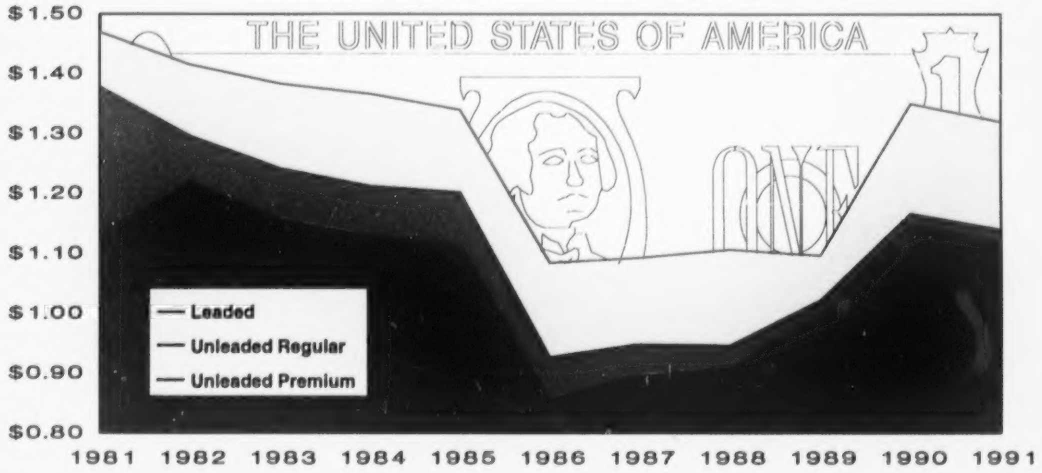
(a) These prices include federal and state taxes and are representative of full-service, self-service and mini-service. The related local areas and population groups are Standard Metropolitan Statistical Areas as defined by the Bureau of Labor Statistics and the U.S. Census Bureau.

(b) Leaded regular prices are no longer collected by the Bureau of Labor Statistics.

Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

Average Gasoline Pump Prices Dip Slightly in 1991

($ per gal., including and reflecting full-service, etc.)



Source: Dept. of Labor, Bureau of Labor Statistics; graph by NPN.

Gasoline Prices by Grades and Months

(U.S. retail averages in ¢ per gal., including taxes and types of service)

1991

Month	Leaded Regular	Unleaded Regular	Unleaded Premium	Avg. for All Types
January	124.6	124.7	143.1	130.4
February	113.7	114.3	132.1	119.8
March	104.7	108.2	124.6	113.8
April	106.2	110.4	128.1	115.9
May	*	115.6	133.1	120.9
June	*	116.0	133.8	121.4
July	*	112.7	131.8	118.5
August	*	114.0	131.8	119.6
September	*	114.3	132.4	119.9
October	*	112.2	130.7	118.0
November	*	113.4	131.8	119.3
December	*	112.3	130.9	118.2
Average	**112.3**	**114.0**	**132.0**	**119.6**

*Data no longer collected or available.

1989

Month	Leaded Regular	Unleaded Regular	Unleaded Premium	Avg. For All Types
January	87.6	91.8	109.1	94.4
February	88.6	92.6	110.0	95.5
March	90.7	94.0	111.5	97.4
April	104.7	106.5	122.1	109.8
May	109.8	111.9	127.8	115.2
June	109.3	111.4	127.8	115.0
July	107.5	109.2	126.4	113.2
August	103.4	105.7	123.3	109.6
September	100.7	102.9	121.3	107.3
October	100.1	102.7	120.9	107.1
November	97.5	99.9	118.7	104.6
December	96.1	98.0	117.8	103.0
Average	**99.7**	**102.2**	**119.7**	**106.0**

1990

Month	Leaded Regular	Unleaded Regular	Unleaded Premium	Avg. For All Types
January	100.6	104.2	123.0	109.0
February	101.1	103.7	122.7	108.6
March	99.9	102.3	121.8	107.6
April	102.7	104.4	123.3	109.6
May	104.4	106.1	124.8	111.4
June	107.7	108.8	127.1	114.0
July	108.9	108.4	127.2	113.9
August	119.8	119.0	136.9	124.6
September	129.7	129.4	146.7	134.7
October	135.4	137.8	155.4	143.1
November	135.1	137.7	155.9	143.2
December	135.2	138.7	155.2	142.1
Average	**115.0**	**116.7**	**135.0**	**121.6**

Gasoline Price Averages, 1981 – 1988

Year	Leaded Regular	Unleaded Regular	Unleaded Premium	Avg. For All Types
1988	90.0	94.6	110.7	96.4
1987	89.7	94.8	109.3	95.7
1986	85.7	92.7	108.5	93.1
1985	111.5	120.2	134.0	119.6
1984	112.9	121.2	136.6 (a)	119.8
1983	115.7	124.1	138.3 (a)	122.5
1982	122.2	129.6	141.5 (a)	128.1
1981 (b)	131.1	137.8	147.0 (a)	135.3

(a) In Jan. 1984, this series was switched from leaded premium to reflect changing market conditions.

(b) Data for 1981 and earlier are for leaded premium. Beginning September 1981, the Bureau of Labor Statistics changed the weights used in the calculation of average motor gasoline.

Source: Energy Information Administration, Monthly Energy Review, January 1992, and Dept. of Labor, Bureau of Labor Statistics.

Supplier Gasoline Prices, by Type of Seller

(¢ per gal., excluding taxes)

Year/ Month	Major Refiners			Other Refiners			Average		
	Sales to End-Users			Sales to End-Users			Sales to End-Users		
	Through Company Outlets	Through Other End-Users	Sales for Resale	Through Company Outlets	Through Other End-Users	Sales for Resale	Through Company Outlets	Through Other End-Users	Sales for Resale
1991									
January	89.7	78.0	77.3	88.1	78.2	72.0	89.3	78.0	76.1
February	80.5	70.3	69.0	78.5	69.2	64.4	80.0	70.0	68.0
March	74.8	68.6	67.6	72.9	67.7	65.8	74.3	68.4	67.2
April	77.7	72.3	71.0	76.4	70.6	69.5	77.3	71.9	70.7
May	82.9	75.8	75.0	81.0	75.4	71.2	82.4	75.7	74.2
June	83.0	71.9	71.7	80.7	72.1	66.2	82.4	72.0	70.5
July	80.0	69.9	69.9	77.8	70.7	66.0	79.4	70.1	69.1
August	82.1	73.5	73.5	79.6	74.4	69.5	81.5	73.7	72.7
September	81.2	70.8	70.4	78.9	69.9	64.6	80.6	70.6	69.1
October	79.1	69.1	69.7	77.3	70.0	65.3	78.6	69.3	68.8
November	79.7	70.2	71.0	78.9	69.8	65.8	79.5	70.1	69.9
December	76.9	63.5	64.4	75.1	63.4	57.2	76.5	63.5	62.9
1991 Avg.	**80.6**	**71.3**	**70.9**	**78.7**	**70.9**	**66.6**	**80.1**	**71.2**	**69.9**
1990									
January	80.4	69.8	70.6	75.6	68.3	64.2	79.2	69.5	69.2
February	77.9	68.1	68.5	74.3	67.4	62.4	77.0	68.0	67.2
March	76.6	66.6	67.6	72.4	65.4	62.0	75.6	66.3	66.3
April	79.1	71.0	70.9	75.8	69.6	65.8	78.3	70.8	69.7
May	81.4	73.7	73.9	78.1	73.7	68.8	80.6	73.7	72.7
June	82.6	74.2	73.8	79.7	77.0	67.6	81.9	74.8	72.3
July	82.1	71.1	72.3	78.9	72.3	64.9	81.3	71.3	70.6
August	92.7	85.0	86.1	92.8	88.4	83.7	92.7	85.6	85.5
September	101.4	96.7	95.3	101.5	98.4	93.4	101.4	97.1	94.9
October	109.6	100.4	100.1	107.7	101.1	93.8	109.1	100.6	98.6
November	108.4	97.1	97.3	105.8	95.7	89.4	107.7	96.8	95.4
December	99.7	82.8	82.4	97.5	82.2	72.8	99.2	82.7	80.2
1990 Avg.	**89.4**	**79.6**	**80.0**	**87.0**	**80.0**	**74.0**	**88.8**	**79.7**	**78.6**
1989 Avg.	**77.1**	**66.2**	**66.8**	**73.5**	**63.3**	**60.8**	**76.3**	**65.2**	**65.4**
1988 Avg.	**69.2**	**57.8**	**59.3**	**65.2**	**54.1**	**52.7**	**68.1**	**56.4**	**58.9**
1987 Avg.	**68.7**	**59.2**	**60.1**	**65.3**	**55.2**	**55.0**	**67.8**	**57.5**	**58.9**
1986 Avg.	**64.1**	**57.6**	**54.4**	**61.2**	**52.7**	**48.7**	**63.2**	**55.8**	**53.1**

Source: Energy Information Administration, Petroleum Marketing Monthly, Table 13, March 1992.

Supplier Product Prices for Resale

(¢ per gal., excluding taxes)

Year/ Month	Motor Gasoline	Aviation Gasoline	Kerosine-Type Jet Fuel	Propane (Consumer Grade)	Kerosine	No. 1 Distillate	No. 2 Distillate			No. 4 Fuel (a)	Residual Fuel Oil
							No. 2 Fuel Oil	No. 2 Diesel Oil	Average		
1991											
January	76.1	110.8	82.2	42.2	87.9	85.7	76.3	75.5	76.0	71.6	49.7
February	68.0	104.1	73.8	31.6	75.7	74.7	67.8	67.4	67.6	60.1	33.4
March	67.2	97.4	62.2	31.3	66.0	66.0	59.6	57.7	58.6	52.9	28.2
April	70.7	97.8	58.8	31.6	62.8	65.4	57.2	57.4	57.3	50.3	28.7
May	74.2	100.3	60.8	32.0	60.7	63.3	56.0	57.2	56.7	47.1	30.3
June	70.5	99.5	58.8	29.3	58.8	58.9	54.0	54.5	54.3	45.3	29.7
July	69.1	98.9	59.4	27.6	63.0	62.4	56.7	57.1	56.9	46.8	29.0
August	72.7	100.2	63.3	29.6	66.9	67.8	60.6	61.8	61.3	49.5	27.9
September	69.1	99.9	65.9	34.9	68.7	69.6	62.1	62.9	62.5	46.6	27.9
October	68.8	98.8	67.0	40.2	73.5	73.6	66.3	65.6	65.9	50.8	29.5
November	69.9	99.5	68.2	43.0	74.6	75.6	66.6	66.5	66.6	54.4	30.7
December	62.9	97.3	60.1	37.7	62.6	64.7	55.8	55.6	55.7	53.4	28.9
1991 Avg.	**69.9**	**100.1**	**65.0**	**34.8**	**72.0**	**73.0**	**62.2**	**61.5**	**61.8**	**55.6**	**31.2**
1990											
January	69.2	96.8	76.6	54.4	87.1	78.6	73.8	69.3	71.7	65.3	48.2
February	67.2	95.0	66.7	34.1	67.9	65.7	57.8	57.1	57.4	53.6	38.1
March	66.3	93.8	61.6	27.1	64.8	67.1	57.9	57.6	57.8	51.6	34.8
April	69.7	96.4	59.5	25.2	62.4	65.9	57.4	57.6	57.5	50.6	33.4
May	72.7	97.4	57.1	24.0	59.2	62.3	54.5	55.4	55.0	43.5	30.5
June	72.3	99.5	54.6	24.9	53.9	55.2	49.4	50.5	50.0	44.0	27.1
July	70.6	100.2	55.5	27.3	57.1	57.6	51.9	52.0	51.9	43.4	29.1
August	85.5	110.4	71.4	36.3	80.7	81.4	72.1	73.7	73.0	63.3	44.5
September	94.9	122.2	92.9	43.5	100.4	96.0	85.3	87.2	86.3	72.0	50.9
October	98.6	127.9	114.7	53.5	115.7	111.7	95.0	99.4	97.3	75.9	57.7
November	95.4	126.2	107.0	50.5	106.6	106.9	90.6	93.6	92.1	80.1	55.6
December	80.2	116.1	90.1	44.6	92.6	89.4	80.9	79.8	80.4	72.1	48.6
1990 Avg.	**78.6**	**106.3**	**77.3**	**38.6**	**83.9**	**83.8**	**69.7**	**69.4**	**69.5**	**59.0**	**41.3**
1989 Avg.	**65.4**	**95.0**	**58.3**	**24.7**	**66.9**	**66.8**	**56.5**	**56.7**	**56.6**	**48.0**	**36.0**
1988 Avg.	**57.7**	**85.0**	**49.5**	**24.0**	**54.9**	**54.9**	**47.3**	**47.3**	**47.3**	**42.5**	**30.0**
1987 Avg.	**58.9**	**85.9**	**53.8**	**25.2**	**59.2**	**59.9**	**52.7**	**53.4**	**53.1**	**46.2**	**38.5**
1986 Avg.	**53.1**	**91.2**	**49.5**	**29.0**	**60.6**	**57.9**	**48.6**	**45.2**	**47.0**	**40.9**	**30.5**
1985 Avg.	**83.5**	**113.0**	**79.4**	**39.8**	**87.4**	**86.3**	**77.6**	**77.2**	**77.4**	**67.2**	**57.7**

Source: Energy Information Administration, Petroleum Marketing Monthly, Table 4, March 1992.

Supplier Gasoline Prices, by Grade and Type

(¢ per gal., excluding taxes)

Year/ Month	Leaded Regular			Unleaded Regular			Unleaded Midgrade			Premium		
	Sales to End-Users			Sales to End-Users			Sales to End-Users			Sales to End-Users		
	Through Company Outlets	Other End-Users	Sales for Resale	Through Company Outlets	Other End-Users	Sales for Resale	Through Company Outlets	Other End-Users	Sales for Resale	Through Company Outlets	Other End-Users	Sales for Resale
1991												
January	86.6	75.7	75.1	85.9	76.0	73.5	93.0	81.1	79.0	100.5	86.2	85.4
February	76.2	66.6	65.3	76.6	68.3	65.4	83.7	73.0	71.2	91.0	77.6	77.3
March	66.1	63.4	59.2	71.0	66.8	65.1	78.5	70.4	70.7	85.0	75.2	75.4
April	66.5	67.3	62.4	73.9	70.3	68.6	82.2	74.8	74.1	88.4	78.7	79.1
May	72.0	73.2	67.6	79.0	74.0	71.7	87.5	78.6	77.7	93.6	82.8	83.4
June	72.7	67.6	65.3	78.8	70.4	67.6	87.4	74.4	74.2	93.4	79.1	80.4
July	68.5	66.6	62.9	75.6	68.5	66.3	84.6	72.5	72.6	90.6	76.9	76.5
August	70.3	70.5	67.2	77.7	72.1	69.9	86.9	76.0	76.1	92.9	80.4	81.9
September	72.0	69.3	67.6	76.8	68.8	66.0	85.7	73.4	72.4	92.0	77.9	79.2
October	70.4	68.3	66.1	74.7	67.7	65.9	83.5	70.9	71.7	90.1	76.1	78.2
November	70.1	70.2	66.3	75.6	68.2	66.9	84.1	73.6	73.0	90.6	76.9	79.3
December	69.1	66.2	62.0	72.3	61.6	59.5	80.6	67.0	66.7	88.1	70.0	73.0
1991 Avg.	**71.7**	**69.0**	**65.7**	**76.4**	**69.5**	**67.2**	**84.7**	**73.8**	**73.3**	**91.2**	**78.2**	**79.2**
1990												
January	71.3	65.6	63.8	74.4	67.2	65.5	84.2	74.5	73.1	91.7	78.2	78.9
February	71.1	66.1	63.1	72.2	65.6	63.4	80.5	71.3	70.4	89.2	76.7	77.4
March	71.3	66.7	64.0	70.5	63.9	62.6	78.7	69.5	68.6	88.0	75.0	76.0
April	73.7	68.5	67.5	73.4	68.1	66.1	81.4	73.8	71.9	90.4	79.2	79.4
May	76.1	73.4	70.3	75.9	71.0	69.1	83.8	76.7	74.7	92.6	82.3	82.6
June	78.8	75.3	71.7	77.1	72.4	68.5	84.9	76.7	74.0	94.0	82.9	83.0
July	80.2	73.4	70.8	76.3	68.1	66.4	83.9	75.1	72.5	93.6	81.0	81.9
August	90.0	88.3	85.0	89.1	83.1	82.7	95.9	88.8	87.2	104.3	94.3	94.8
September	97.1	96.6	92.8	98.1	95.0	92.4	105.5	100.1	97.1	113.5	105.3	104.3
October	103.2	98.3	96.2	105.9	98.6	95.7	114.0	104.2	102.7	121.9	109.4	109.8
November	103.2	95.1	93.1	104.3	94.7	92.5	112.6	100.1	99.6	120.5	105.0	106.6
December	96.8	82.9	80.1	95.7	80.6	77.1	103.2	85.3	84.2	110.8	91.1	91.5
1990 Avg.	**83.4**	**76.8**	**75.4**	**85.3**	**77.5**	**75.8**	**92.3**	**84.0**	**81.4**	**99.0**	**87.3**	**87.4**
1989 Avg.	**71.5**	**64.4**	**63.1**	**72.0**	**62.9**	**61.8**	**79.6**	**69.5**	**68.6**	**87.4**	**73.7**	**74.9**
1988 Avg.	**62.4**	**55.5**	**54.8**	**64.9**	**55.0**	**54.8**	**NA**	**NA**	**NA**	**79.4**	**64.9**	**67.2**
1987 Avg.	**62.3**	**57.4**	**56.5**	**65.9**	**56.4**	**56.9**	**NA**	**NA**	**NA**	**79.0**	**65.4**	**67.1**
1986 Avg.	**57.8**	**54.4**	**50.1**	**62.4**	**54.9**	**52.2**	**NA**	**NA**	**NA**	**74.8**	**63.0**	**61.0**

Source: Energy Information Administration, Petroleum Marketing Monthly, Table 11, March 1992.

Supplier Product Prices for End-Users

(¢ per gal., excluding taxes)

Year/ Month	Motor Gasoline	Aviation Gasoline	Kerosine-Type Jet Fuel	Propane (Consumer Grade)	Kerosine	No. 1 Distillate	No. 2 Distillate			No. 4 Fuel (a)	Residual Fuel Oil
							No.2 Fuel Oil	No. 2 Diesel Oil	Average		
1991											
January	88.7	112.1	81.6	86.6	105.0	89.0	84.5	80.4	81.2	75.4	53.4
February	79.6	106.4	73.7	81.3	93.5	77.8	75.3	71.3	72.0	60.2	39.7
March	74.1	101.3	62.1	76.0	88.8	68.4	64.8	61.7	62.2	54.8	32.3
April	77.1	101.1	58.7	69.8	73.8	67.6	61.6	60.6	60.7	54.1	30.2
May	82.1	105.3	60.1	66.0	69.3	65.5	58.9	60.1	59.9	51.5	31.0
June	81.9	105.2	59.3	62.1	62.3	62.8	56.3	57.9	57.7	49.5	29.5
July	79.0	103.6	59.7	60.6	64.7	64.7	59.1	59.5	59.4	50.0	31.2
August	81.2	105.8	63.8	63.4	68.7	68.1	62.3	63.3	63.2	53.6	31.1
September	80.2	105.7	66.6	64.4	73.6	69.7	63.9	64.8	64.7	52.9	30.6
October	78.2	104.6	67.8	68.0	81.6	73.5	68.5	68.1	68.1	58.4	32.3
November	79.1	104.3	69.6	73.8	94.3	76.3	70.8	69.7	69.9	57.5	35.1
December	75.9	102.0	61.5	78.3	85.8	66.5	63.0	60.9	61.2	54.3	33.1
1991 Avg.	**79.7**	**104.7**	**65.3**	**72.9**	**83.6**	**74.0**	**66.7**	**64.8**	**65.0**	**58.0**	**34.0**
1990											
January	78.8	102.0	79.8	90.8	101.7	81.6	81.2	76.5	77.5	71.8	52.2
February	76.5	102.4	68.4	82.6	82.6	67.0	64.3	61.9	62.2	57.1	43.7
March	75.1	100.9	63.2	71.5	84.1	67.9	62.8	60.6	60.9	55.0	40.2
April	77.9	101.4	60.7	68.5	76.6	66.8	61.9	60.3	60.5	50.6	35.5
May	80.2	103.6	58.1	54.8	67.0	64.3	57.5	58.4	58.3	48.3	34.1
June	81.5	104.2	55.7	57.4	59.9	61.0	51.4	54.0	53.7	45.0	30.4
July	80.8	103.9	55.4	55.6	60.0	62.9	53.6	55.0	54.8	43.9	31.9
August	92.4	112.8	70.7	64.7	90.6	80.0	74.2	76.2	75.9	65.4	44.1
September	101.2	125.6	92.1	72.5	104.4	94.2	87.3	88.4	88.3	73.1	50.7
October	108.7	134.4	116.8	76.9	121.2	106.4	99.4	101.0	100.8	87.0	60.5
November	107.2	131.7	108.4	84.6	119.6	103.9	93.5	96.0	95.6	84.4	58.7
December	98.4	122.5	90.9	85.3	112.1	95.7	86.8	85.9	86.0	81.3	55.5
1990 Avg.	**88.3**	**112.0**	**76.6**	**74.5**	**92.3**	**81.9**	**73.4**	**72.5**	**72.6**	**62.2**	**44.4**
1989 Avg.	**75.6**	**99.5**	**59.2**	**61.5**	**70.9**	**66.1**	**58.7**	**58.5**	**58.5**	**51.2**	**38.5**
1988 Avg.	**67.3**	**89.1**	**51.3**	**71.4**	**73.8**	**56.4**	**54.4**	**50.0**	**50.7**	**46.1**	**33.4**
1987 Avg.	**66.9**	**90.7**	**54.3**	**70.1**	**77.0**	**60.4**	**58.1**	**55.1**	**55.6**	**51.3**	**42.3**
1986 Avg.	**62.4**	**101.1**	**52.9**	**74.5**	**79.0**	**62.0**	**56.0**	**47.8**	**49.1**	**48.9**	**34.3**
1985 Avg.	**91.2**	**120.1**	**79.6**	**71.7**	**103.0**	**88.0**	**84.9**	**78.9**	**79.9**	**77.3**	**61.0**

Source: Energy Information Administration, Petroleum Marketing Monthly, Table 2, March 1992

Residential No. 2 Distillate Fuel Oil Prices for Selected States

(¢ per gal., excluding taxes)

Year/ Month	Conn.	Maine	Mass.	N.H.	R.I.	Vt.	Del.	D.C.	Md.	N.J.	N.Y.	Pa.	Va.
1991													
January	122.6	114.4	117.2	107.2	112.9	117.5	113.0	124.1	122.7	119.7	123.7	117.7	117.7
February	116.0	105.9	111.3	100.7	109.5	111.3	105.4	118.6	116.1	113.3	119.7	110.9	110.5
March	109.0	95.4	102.7	90.5	101.6	104.0	98.4	112.3	107.7	104.3	112.8	101.8	102.6
April	101.4	87.1	96.1	83.9	94.6	98.3	92.3	105.6	102.8	97.6	106.7	95.5	96.2
May	96.5	81.9	91.7	79.4	89.7	93.5	91.4	101.1	98.8	93.5	101.1	89.9	90.7
June	92.7	79.4	88.9	77.3	87.1	91.3	83.1	94.6	95.9	90.3	97.9	85.7	87.8
July	90.0	82.2	88.4	77.6	88.8	88.1	81.5	98.6	93.7	88.5	93.9	80.8	86.9
August	89.7	83.4	88.7	80.6	88.7	88.6	85.3	98.6	94.0	89.0	92.9	81.8	87.5
September	92.0	87.3	90.9	84.2	90.3	91.9	87.3	101.7	96.7	92.3	98.7	83.3	90.7
October	96.3	91.3	94.9	87.8	94.9	93.9	92.8	104.0	100.0	97.1	103.4	88.7	93.9
November	99.8	95.1	97.4	90.1	95.8	95.6	96.9	107.3	103.4	100.6	108.2	93.5	96.7
December	98.2	89.5	95.8	89.1	93.4	95.0	94.7	107.7	102.5	97.4	106.0	93.0	95.3
1991 Avg.	**106.1**	**96.0**	**102.8**	**91.7**	**99.8**	**101.9**	**99.7**	**112.1**	**108.7**	**104.0**	**111.2**	**99.7**	**101.5**
1990													
January	120.0	116.1	117.0	118.5	122.5	121.5	119.4	119.0	119.8	117.3	122.2	113.7	117.8
February	100.8	85.4	99.8	96.2	98.5	98.7	97.1	96.4	100.9	99.5	103.2	93.4	102.9
March	97.7	84.0	98.7	93.2	97.3	95.6	93.2	94.4	98.8	98.5	101.6	90.3	97.9
April	96.3	83.2	95.1	90.1	95.9	94.2	91.8	93.1	97.5	96.5	100.2	87.6	94.9
May	92.7	81.2	92.4	87.0	93.9	91.7	90.1	94.2	94.9	94.4	98.9	84.4	90.4
June	87.1	76.7	88.9	82.8	89.1	87.2	83.2	93.2	89.4	88.6	94.5	78.3	88.0
July	85.4	74.2	88.0	80.7	86.9	85.4	77.9	97.6	86.2	85.4	93.0	74.3	89.8
August	104.1	97.7	102.3	99.2	102.3	97.4	93.1	107.1	100.2	102.1	102.3	92.5	102.4
September	114.7	118.4	118.1	110.9	118.8	114.4	112.0	116.1	115.7	117.2	117.9	108.7	114.7
October	128.2	126.0	126.8	119.8	120.1	124.2	119.0	134.3	130.8	129.4	130.2	122.3	128.3
November	128.1	116.4	122.8	116.2	119.5	123.7	118.8	133.3	130.4	126.8	129.6	122.5	125.6
December	124.7	113.4	120.0	11.2	115.3	119.6	113.7	128.4	125.3	122.2	126.6	119.3	122.8
1990 Avg.	**109.8**	**98.9**	**108.4**	**102.8**	**108.6**	**107.0**	**105.8**	**107.8**	**111.9**	**108.7**	**112.5**	**102.6**	**110.6**
1989 Avg.	**92.9**	**89.4**	**92.6**	**89.3**	**93.9**	**90.5**	**88.2**	**98.6**	**93.8**	**91.8**	**95.8**	**85.1**	**87.0**
1988 Avg.	**85.3**	**77.7**	**82.1**	**78.2**	**83.6**	**82.6**	**80.1**	**91.6**	**87.0**	**84.8**	**86.3**	**77.8**	**80.5**
1987 Avg.	**83.4**	**74.7**	**80.6**	**76.5**	**82.5**	**81.1**	**79.3**	**91.8**	**86.6**	**84.3**	**85.2**	**76.9**	**79.5**
1986 Avg.	**89.0**	**74.4**	**82.1**	**75.9**	**82.8**	**86.6**	**85.0**	**93.1**	**91.4**	**90.2**	**91.1**	**81.4**	**86.6**

Source: Energy Information Administration, Petroleum Marketing Monthly, Table 16, March 1992.

Supplier Prices of No.2 Distillate Fuel Oil

(¢ per gal., excluding taxes)

Year/ Month	Sales to End-Users						
	To Residential Consumers(a)	To Commercial/ Institutional Consumers	To Industrial Consumers	Sales Through Company Outlets (b)	To Other End-Users (c)	Average	Sales for Resale
1991							
January	116.8	84.0	84.9	91.0	89.2	96.4	76.9
February	110.3	75.1	76.2	81.6	73.3	86.9	68.6
March	102.6	65.2	66.9	72.2	71.7	76.3	59.9
April	96.9	63.0	65.7	70.6	71.0	71.3	58.1
May	92.5	61.8	64.1	70.0	70.2	68.1	57.3
June	89.3	59.6	62.1	67.8	68.0	65.2	55.1
July	86.6	61.3	64.3	68.5	69.0	66.4	57.6
August	87.0	65.0	68.0	72.0	72.4	69.8	61.7
September	89.6	66.6	70.5	73.9	74.7	72.3	63.1
October	94.0	70.2	73.2	76.3	77.8	76.3	66.5
November	97.9	71.6	74.6	78.9	77.3	79.5	66.9
December	95.9	63.2	65.9	74.1	69.3	75.0	56.5
1991 Avg.	**101.8**	**67.4**	**69.6**	**74.6**	**73.8**	**76.0**	**62.7**
1990							
January	114.0	80.0	80.7	89.3	81.8	92.1	74.0
February	96.5	64.1	66.5	75.3	69.7	76.4	59.0
March	94.9	62.7	65.6	71.5	69.9	73.3	58.5
April	93.2	62.0	65.3	70.9	70.7	71.1	58.2
May	90.7	59.3	63.6	69.2	68.4	67.0	55.6
June	86.4	55.0	59.1	66.5	63.8	61.9	50.9
July	83.7	56.5	60.1	66.7	64.5	62.7	52.8
August	98.8	78.0	82.9	88.3	86.7	84.6	73.7
September	114.2	89.9	95.6	100.1	99.5	97.1	86.4
October	125.8	101.5	106.2	110.9	110.8	108.5	97.2
November	124.1	96.5	100.0	107.5	106.1	105.5	91.9
December	119.7	87.8	89.6	98.1	94.7	99.6	81.5
1990 Avg.	**106.3**	**75.1**	**78.0**	**85.2**	**82.8**	**84.1**	**70.6**
1989 Avg.	**90.0**	**60.8**	**63.8**	**68.5**	**66.7**	**69.5**	**57.2**
1988 Avg.	**81.3**	**51.9**	**54.2**	**61.6**	**58.7**	**61.2**	**48.2**
1987 Avg.	**80.3**	**56.6**	**59.7**	**64.4**	**63.1**	**64.3**	**53.5**
1986 Avg.	**83.6**	**51.4**	**53.7**	**59.8**	**56.9**	**61.4**	**48.0**

(a) No. 2 fuel oil only. (b) No. 2 diesel fuel only.

(c) Sales to "other end users" are all end-user sales not included in the other end-user categories shown; e.g., sales to agricultural customers or utilities.

Source: Energy Information Administration, Petroleum Marketing Monthly, Table 15, March 1992.

Residential No. 2 Distillate Fuel Oil Prices for Selected States

(¢ per gal., excluding taxes)

Year/ Month	W. Va.	Ill.	Ind.	Mich.	Minn.	Ohio	Wis.	Idaho	Ark.	Ore.	Wash.	U.S. Avg.
1991												
January	110.4	102.4	105.8	109.1	105.5	105.5	102.4	110.8	129.3	108.3	118.4	**116.8**
February	101.2	93.0	95.4	97.0	93.6	94.5	92.3	97.3	122.8	102.9	112.0	**110.3**
March	90.8	85.9	87.9	90.9	87.2	85.8	87.6	84.1	109.5	89.4	95.3	**102.6**
April	87.4	88.3	85.7	90.9	87.7	83.2	84.0	83.5	101.9	86.4	94.0	**96.9**
May	85.5	88.5	86.3	88.5	88.0	83.1	82.9	84.4	101.3	86.5	94.9	**92.5**
June	83.5	86.8	80.3	87.5	87.0	80.7	80.8	83.4	98.2	85.6	91.7	**89.3**
July	81.7	82.2	79.1	83.4	84.3	79.6	78.0	80.0	98.6	84.5	85.4	**86.6**
August	82.3	86.5	85.5	84.5	N/A	81.1	78.8	84.6	96.8	87.3	92.3	**87.0**
September	84.7	86.9	85.5	86.6	83.7	84.8	82.7	87.4	92.4	90.8	93.5	**89.6**
October	89.5	88.7	85.8	89.4	86.6	88.7	85.4	87.6	93.2	89.1	94.8	**94.0**
November	91.8	92.4	87.1	92.7	89.2	91.8	90.2	94.7	95.7	90.5	99.5	**97.9**
December	88.9	90.1	82.8	90.0	84.7	86.8	84.9	95.7	94.9	88.6	96.1	**95.9**
1991 Avg.	**93.2**	**92.7**	**91.7**	**93.8**	**91.2**	**91.0**	**89.5**	**95.4**	**105.2**	**93.6**	**101.7**	**101.8**
1990												
January	109.2	94.9	99.8	103.5	99.7	96.0	91.6	85.8	96.5	88.7	96.0	**114.0**
February	89.5	83.1	86.2	92.1	88.1	82.8	83.9	80.9	97.4	83.9	89.0	**96.5**
March	87.1	83.4	83.8	88.7	85.6	82.5	83.1	80.9	102.6	84.3	86.6	**94.9**
April	83.7	82.2	84.1	86.5	85.6	82.3	82.9	81.7	96.5	85.0	90.0	**93.2**
May	83.0	78.3	82.4	83.7	85.1	83.1	81.0	79.5	99.3	84.6	84.9	**90.7**
June	83.4	73.8	72.8	81.1	80.3	82.6	79.5	74.8	100.5	81.9	85.0	**86.4**
July	79.2	76.7	74.7	82.4	82.8	81.6	77.6	70.5	93.5	79.3	76.2	**83.7**
August	98.1	96.9	98.0	100.3	101.4	93.3	92.0	90.7	113.7	95.3	89.5	**98.8**
September	116.3	N/A	110.7	113.2	111.6	115.3	107.1	108.3	122.3	111.9	115.8	**114.2**
October	124.4	116.9	123.3	124.1	120.7	120.9	117.2	121.0	129.7	128.1	133.3	**125.8**
November	121.7	113.1	117.8	121.2	119.8	117.0	114.4	127.3	128.6	127.1	134.2	**124.1**
December	113.1	104.9	111.3	113.5	111.2	111.8	108.3	119.9	128.2	109.2	121.9	**119.7**
1990 Avg.	**99.1**	**96.1**	**99.3**	**100.9**	**101.4**	**98.1**	**94.2**	**97.4**	**110.1**	**97.0**	**102.9**	**106.3**
1989 Avg.	**83.0**	**80.9**	**83.2**	**85.3**	**82.4**	**81.6**	**81.1**	**77.8**	**96.4**	**80.2**	**87.4**	**90.0**
1988 Avg.	**74.2**	**77.6**	**75.4**	**77.5**	**73.5**	**74.7**	**73.9**	**68.8**	**86.9**	**70.9**	**78.5**	**81.3**
1987 Avg.	**76.4**	**79.6**	**75.4**	**77.5**	**74.6**	**74.7**	**75.1**	**68.8**	**86.5**	**72.5**	**79.5**	**80.3**
1986 Avg.	**74.6**	**N/A**	**74.8**	**81.0**	**79.2**	**77.7**	**75.6**	**73.8**	**94.9**	**70.4**	**77.5**	**83.6**

Source: Energy Information Administration, Petroleum Marketing Monthly, Table 16, March 1992.

Supplier Prices of Residual Fuel Oil

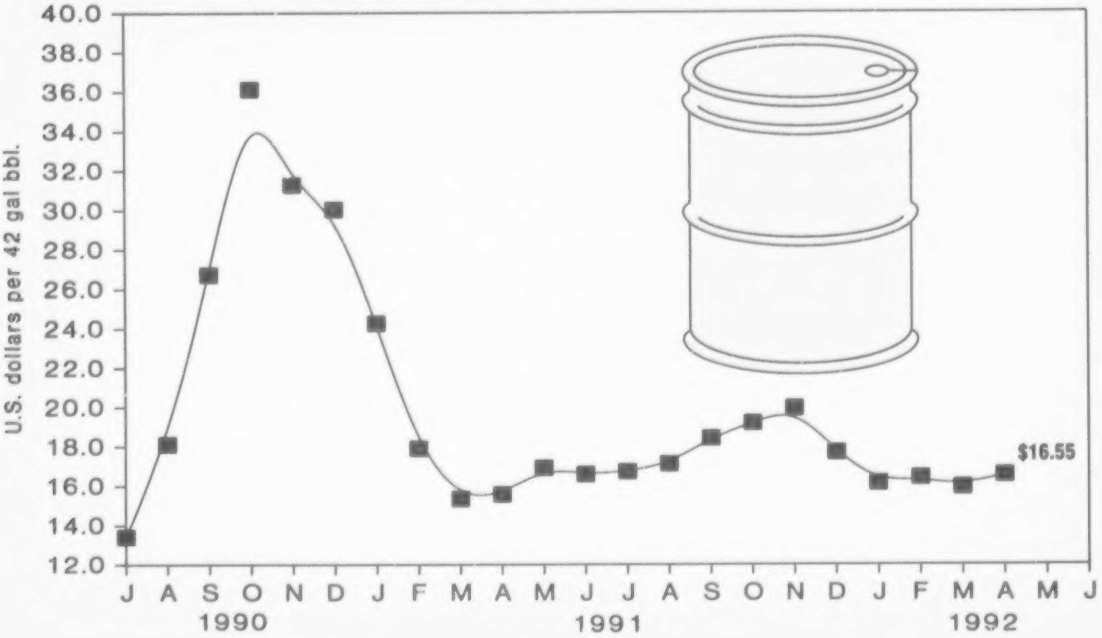
(¢ per gal., excluding taxes)

	Residual Fuel Oil Sulfur Content Less Than or Equal to 1%		Residual Fuel Oil Sulfur Content Greater than 1%		Average	
Year/ Month	Sales to End-Users	Sales for Resale	Sales to End-Users	Sales for Resale	Sales to End-Users	Sales for Resale
1991						
January	59.4	51.4	49.7	48.7	53.4	49.7
February	43.7	34.9	37.1	32.3	39.7	33.4
March	38.2	36.2	28.2	24.2	32.3	28.2
April	37.6	33.6	27.1	25.8	30.2	28.7
May	36.6	36.5	27.6	27.7	31.0	30.3
June	35.3	32.0	26.9	28.6	29.5	29.7
July	36.4	32.6	28.2	27.6	31.2	29.0
August	36.8	33.4	27.7	25.9	31.1	27.9
September	36.8	33.7	27.3	25.4	30.6	27.9
October	38.5	34.1	29.7	27.6	32.3	29.5
November	40.8	36.6	31.8	27.9	35.1	30.7
December	40.0	34.8	28.8	26.0	33.1	28.9
1991 Avg.	**40.2**	**36.1**	**30.6**	**28.8**	**34.0**	**31.2**
1990						
January	60.1	56.0	45.2	42.0	52.2	48.2
February	51.5	44.4	37.3	34.6	43.7	38.1
March	45.4	39.7	35.5	31.9	40.2	34.8
April	39.6	36.1	32.6	31.2	35.5	33.4
May	37.9	34.5	31.4	28.3	34.1	30.5
June	34.2	31.1	27.6	24.8	30.4	27.1
July	36.3	33.2	28.4	25.4	31.9	29.1
August	50.7	49.1	39.4	41.4	44.1	44.5
September	59.4	56.4	46.2	46.1	50.7	50.9
October	68.6	64.1	54.8	53.1	60.5	57.7
November	66.5	63.3	53.9	49.7	58.7	55.6
December	62.2	57.6	50.2	43.0	55.5	48.6
1990 Avg.	**50.5**	**47.2**	**40.0**	**37.2**	**44.4**	**41.3**
1989 Avg.	**43.6**	**40.7**	**34.4**	**33.1**	**38.5**	**36.0**
1988 Avg.	**37.2**	**33.3**	**30.0**	**27.1**	**33.4**	**30.0**
1987 Avg.	**44.7**	**41.2**	**39.6**	**36.2**	**42.3**	**38.5**
1986 Avg.	**37.2**	**32.8**	**31.7**	**28.9**	**34.3**	**30.5**

Source: Energy Information Administration, Petroleum Marketing Monthly, Table 17, March 1992.

World Crude Oil Price Trends

(Average price (FOB), internationally traded only, weighted by estimated volume)



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International Prices for Gasoline and Fuel Oil

(U.S. $ per gal. for gasoline, pump retails, distillate and kerosine)
(U.S. $ per bbl. for residual oil)

Country	January 1, 1991					January 1, 1990				
	Automotive Fuels		Residential		Industrial	Automotive Fuels		Residential		Industrial
	Premium Gasoline	Diesel	Distillate	Kerosine	Residual	Premium Gasoline	Diesel	Distillate	Kerosine	Residual
Western Hemisphere										
Argentina	3.07	1.53	1.53	1.28	29.0	1.28	0.59	0.41	0.31	9.28
Bolivia	1.78	1.00	0.95	0.67	N/A	1.46	0.95	0.85	0.75	N/A
Brazil	1.65	0.81	0.43	0.95	13.71	1.41	0.69	0.85	0.79	9.55
Canada*	2.06	1.98	1.55	1.24	27.08	1.92	1.55	1.09	1.56	23.49
Chile	1.71	1.48	1.44	1.32	27.80	1.21	1.20	1.17	0.96	21.96
Colombia	0.64	0.51	N/A	0.51	12.11	N/A	N/A	N/A	N/A	N/A
Costa Rica	1.51	1.21	0.61	1.06	N/A	N/A	N/A	N/A	N/A	N/A
Dominican Republic	1.54	1.05	1.05	1.38	22.93	0.94	0.39	N/A	0.39	16.38
Ecuador	0.44	0.41	0.25	0.05	14.71	0.52	0.37	N/A	0.06	11.78
El Salvador	2.36	0.96	1.55	1.12	N/A	1.88	1.05	N/A	1.14	21.00
Jamaica	1.94	2.04	2.05	N/A	35.91	2.02	1.44	N/A	0.78	25.08
Mexico	0.87	0.66	N/A	0.26	9.60	0.88	0.67	0.27	0.63	9.74
Panama	2.44	1.36	N/A	1.10	27.15	1.98	1.19	N/A	1.10	21.21
Paraguay	2.34	1.40	N/A	0.88	22.09	1.33	0.68	N/A	0.81	17.84
Peru	1.99	1.07	N/A	0.98	38.17	1.28	0.39	N/A	0.44	11.28
Suriname	3.10	1.82	N/A	1.37	N/A	N/A	N/A	N/A	N/A	N/A
Trinidad & Tobago	1.34	0.80	0.85	0.79	N/A	N/A	N/A	N/A	N/A	N/A
United States*	**1.43	0.91	1.17	1.05	20.87	**1.04	0.99	0.81	1.00	21.84
Uruguay	3.05	1.79	1.22	1.34	37.11	2.50	1.44	0.98	1.16	30.19
Venezuela	0.27	0.19	N/A	0.07	6.55	0.24	0.06	0.04	0.09	1.84
Western Europe*										
Austria	3.47	3.31	1.80	N/A	21.70	3.15	2.17	0.80	N/A	17.11
Belgium	3.61	N/A	1.33	N/A	14.39	3.13	1.76	0.96	0.87	14.93
Denmark	4.18	3.38	3.15	4.08	25.51	3.64	1.04	2.32	1.84	20.83
Finland	4.45	3.53	1.69	N/A	36.58	3.40	2.29	1.21	N/A	25.53
France	3.86	N/A	2.03	N/A	19.08	3.40	1.78	1.40	N/A	18.51
Germany	2.87	2.69	1.34	N/A	32.77	2.72	1.91	0.95	N/A	20.31
Greece	3.32	1.59	N/A	2.12	27.74	2.16	0.89	0.90	0.79	24.31
Ireland	3.62	N/A	1.43	N/A	21.80	3.63	2.54	1.43	0.48	21.79
Italy	5.10	3.77	3.54	2.61	54.64	4.27	2.34	2.53	2.00	24.00
Luxembourg	2.95	2.10	1.34	2.79	32.34	2.32	1.40	0.94	0.98	19.81
Netherlands	3.28	2.24	1.46	1.66	28.56	3.35	1.72	1.25	1.62	26.77
Norway	4.80	2.33	2.07	2.35	76.30	3.61	1.31	1.38	1.55	44.43
Portugal	4.25	3.02	N/A	2.69	20.73	3.30	2.06	2.13	2.03	25.16
Spain	3.53	N/A	1.85	N/A	29.15	2.73	1.82	1.21	2.04	21.22
Sweden	4.45	3.58	2.05	2.88	77.20	3.23	2.30	1.74	2.18	55.61
Switzerland	3.21	3.42	1.19	N/A	37.73	2.66	2.71	0.88	N/A	23.42
Turkey	2.51	1.91	N/A	2.10	28.79	1.97	1.94	0.96	1.98	36.24
United Kingdom	2.55	N/A	0.81	N/A	19.59	2.55	2.04	0.81	2.61	19.59
Yugoslavia	3.05	2.51	1.46	0.85	27.70	2.16	1.80	0.84	N/A	N/A
Middle East										
Israel	2.70	2.01	0.80	2.05	22.96	2.20	1.67	0.75	1.69	23.03
Saudi Arabia	0.54	0.12	N/A	0.20	5.30	0.54	0.12	N/A	0.20	55.01
Africa										
Ethiopia	2.93	1.44	N/A	1.20	24.39	2.93	1.44	N/A	1.18	47.00
Ghana	1.49	1.24	N/A	1.12	35.39	0.76	0.69	N/A	0.52	18.36
Kenya	2.35	1.78	N/A	1.31	40.85	N/A	N/A	N/A	N/A	N/A
Morocco	2.92	1.67	0.83	1.50	29.78	2.86	1.63	0.95	1.47	33.48
South Africa	2.00	2.00	1.86	1.55	45.52	1.76	1.65	1.59	1.48	35.67
Tunisia	2.21	N/A	0.86	0.72	17.17	2.01	N/A	0.79	0.66	15.64
Zimbabwe	2.38	1.28	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Asia-Pacific										
Australia*	2.11	2.04	2.26	2.30	59.07	1.86	1.59	1.43	N/A	N/A
India	3.09	1.05	N/A	0.57	30.07	1.92	0.78	N/A	0.50	31.46
Indonesia	0.90	0.49	0.44	0.50	19.80	0.81	0.42	0.42	0.35	17.65
Japan*	3.90	2.40	1.69	N/A	50.68	3.05	1.75	1.03	N/A	26.14
Myanmar (Burma)	2.27	1.49	1.21	1.92	50.82	2.94	1.93	1.56	2.48	54.60
Pakistan	2.46	0.97	0.80	0.86	21.42	1.52	0.68	N/A	0.53	14.28
Philippines	2.16	1.05	N/A	1.05	N/A	1.19	0.84	N/A	0.84	24.25
Singapore	2.64	1.30	N/A	1.26	21.86	N/A	N/A	N/A	N/A	N/A
Sri Lanka	1.87	0.90	N/A	0.61	15.03	1.89	0.91	N/A	0.62	15.20
Thailand	1.67	1.27	N/A	1.32	23.00	1.24	0.89	N/A	0.90	17.84

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* Averages for 1991. ** Unleaded regular gasoline prices. N/A = Not available or not reported. All taxes are included, except for U.S. fuel oils.
Gasoline and fuel oil prices are for the capital cities of each country, except those of the U.S., which are the national average for the periods quoted.
Source: Energy Information Administration, International Energy Annual 1990, Table D-2, March 1991.

Spot Market Product Prices

($ per bbl.)

		Motor Gasoline		Gas Oil/Heating Oil		Residual Fuel Oil	
		Rotterdam Unleaded Regular (87-Octane)	New York Unleaded Regular (87-Octane)	Rotterdam (0.3% Sulfur)	New York (0.2% Sulfur)	Rotterdam (1% Sulfur)	New York (1% Sulfur)
1991							
Jan.	4	29.13	27.16	32.44	30.83	21.55	22.50
	11	31.65	31.22	35.39	33.93	22.75	22.25
	18	26.67	25.78	34.72	30.66	18.09	19.75
	25	27.43	26.92	37.20	32.08	18.77	17.50
Feb.	1	27.90	29.48	33.85	30.73	14.71	16.25
	8	27.90	27.38	43.50	32.80	13.59	14.35
	15	29.96	27.80	36.66	30.95	13.81	14.25
	22	25.09	26.64	37.87	28.67	13.44	13.50
Mar.	1	27.08	29.47	25.60	28.66	13.36	13.25
	8	28.60	31.58	26.68	27.68	14.86	13.25
	15	27.90	29.91	22.79	26.04	15.54	15.50
	22	28.02	33.10	23.06	27.13	15.02	15.25
	29	27.55	29.74	22.92	24.55	15.17	15.00
Apr.	5	26.14	29.64	23.32	24.53	14.19	14.00
	12	27.90	30.23	23.73	24.17	13.21	14.00
	19	28.66	31.08	24.80	23.68	13.44	14.00
	26	27.90	30.11	25.27	23.65	12.46	13.90
May	3	28.02	30.20	24.66	22.87	11.41	13.50
	10	28.14	31.13	25.20	23.58	12.01	13.25
	17	27.43	28.94	24.80	23.28	12.16	13.40
	24	27.78	28.04	25.20	23.83	12.16	13.50
	31	27.90	28.54	24.53	23.86	11.86	13.50
June	7	27.55	27.27	23.32	22.64	11.86	13.25
	14	28.14	26.43	23.73	22.38	11.64	13.00
	21	27.67	25.97	23.79	22.66	11.11	12.65
	28	26.61	26.67	23.32	22.59	11.26	12.65
July	5	26.85	26.52	23.99	23.47	11.71	13.50
	12	26.38	27.40	24.60	24.28	12.16	14.25
	19	26.61	27.19	25.47	25.08	13.51	14.50
	26	26.49	27.85	25.07	24.52	13.06	14.75
Aug.	2	26.85	29.01	25.07	25.21	13.06	14.00
	9	26.91	30.83	25.13	25.21	12.01	13.75
	16	27.55	28.91	24.80	25.73	12.76	14.00
	23	27.43	29.45	25.47	26.79	13.81	14.25
	30	27.43	27.72	25.87	26.85	14.19	14.50
Sept.	6	27.67	26.30	25.60	27.44	14.71	15.25
	13	27.55	26.12	25.67	26.28	14.86	14.35
	20	27.78	25.57	25.87	26.14	15.02	15.00
	27	26.85	25.94	26.41	26.55	15.02	15.00
Oct.	4	26.14	26.59	27.75	26.84	15.54	15.00
	11	25.67	26.27	28.82	27.89	15.32	15.25
	18	25.79	27.11	29.83	29.06	14.71	15.50
	25	26.49	27.45	29.22	29.35	14.71	15.50
Nov.	1	26.96	28.40	29.09	29.70	15.47	15.75
	8	27.32	28.47	30.23	30.21	16.07	15.75
	15	26.85	26.81	27.01	29.29	16.82	16.00
	22	26.61	27.13	27.28	28.99	17.94	16.50
	29	24.85	26.21	25.74	28.43	19.14	16.15
Dec.	6	23.92	24.18	24.06	27.45	17.87	15.50
	13	22.51	23.11	23.46	26.21	17.72	14.75
	20	22.04	22.86	23.59	25.46	17.12	14.75
	27	21.69	22.47	22.39	24.51	16.82	14.00
1992							
Jan.	3	22.27	23.39	21.92	23.26	16.07	13.65
	10	22.39	20.81	20.78	22.53	14.41	12.50
	17	22.51	22.23	23.32	23.97	14.41	12.35
	24	22.27	21.76	23.86	24.02	12.91	12.50
	31	22.04	23.21	22.86	24.21	12.16	12.75
Feb.	7	22.86	24.21	23.26	24.51	12.01	12.50
	14	23.33	23.68	22.92	24.81	12.16	12.75
	21	22.74	22.26	21.98	24.41	11.56	12.65
	28	22.39	23.07	21.65	23.63	10.81	12.25
Mar.	6	22.27	24.03	21.25	23.53	12.39	12.00
	13	22.04	23.78	21.11	23.39	12.76	12.25
	20	22.16	24.07	21.51	23.79	13.66	12.65
	27	22.39	23.96	21.92	23.58	13.96	13.25

Source: Energy Information Administration, Weekly Petroleum Statistical Reports, Table 13, January 1992.

Retail Outlet Count Edges Down, But Is Still Over 200,000

Early in 1992, there were 202,443 retail outlets in the United States selling gasoline to the motoring public. This figure represents a decline of 7,677 outlets (3.8%) compared to the total outlet population of 210,120 reported during the same period in 1991.

The decline in the retail gasoline outlet population should come as no surprise to anyone who has been following events in the petroleum market over the past year. Economic recession, reduced product demand, volatile price swings and burdensome environmental regulations have taken their toll, particularly among retailers with marginal facilities. The surprise, perhaps, is that under these circumstances, less than 4% of retail outlets have gone under.

This latest population count is derived from the second-annual retail gasoline outlet survey conducted by the editorial staff of *National Petroleum News*. To compile this data, *NPN* staff members contacted officials in every state in the union and the District of Columbia.

NPN adopted this survey method last year to provide the petroleum marketing industry with a more accurate and confirmable universe figure than the hodgepodge of guesses and highly selective and limited "counts" that have been circulating in the past 10 years or so.

Early in 1991, *NPN* set out to determine the total number of places where motorists can buy gasoline for their vehicles at retail pumps [*NPN*—April '91, p26]. This includes conventional "service stations," convenience stores, car washes, unattended outlets, truckstops, garages, etc.; anywhere that gasoline is sold at retail. Unfortunately, many thousands of these facilities have been ignored or have simply slipped through the cracks in previous market surveys.

This new counting concept dispenses with the arbitrary definition of "gasoline service stations" adopted by the U.S. Census Bureau's *Census of Retail Trade* conducted every five years. In its last two official nose counts—in 1982 and 1987—the Census Bureau simply lopped off tens of thousands of legitimate gasoline retail outlets. The Bureau eliminated Mom-and-Pop retail outlets and counted only those with employees and formal payrolls. What's more, they classified as "service stations" only those outlets that generated 50% or more of their annual revenue from gasoline sales.

Under the Bureau definition, a convenience store selling $700,000/yr. of store merchandise, for example, and $680,000/yr. of gasoline (about 50,000 gal./mo.) would be excluded from its tally.

The Census Bureau's survey methodology, using the 50%/payroll definition, largely discounts the tremendous growth of the convenience store presence in the petroleum market during the past 15 years or thereabouts. *NPN's* survey, on the other hand, counts these neglected C-store/gasoline combinations, along with all other retail gasoline facilities orphaned by the Bureau's tally.

Target the states

Lacking data from government or any other national source that reflected the true dimensions of the retail gasoline market, *NPN's* survey task force—including editors Angel Abcede, Steve Dwyer, Mark Emond, Alicia Lasek, Greg Lindenberg and Don Smith—focused its numbers quest at the state level.

It should be noted at the outset that many states do not have "official" figures or procedures for isolating, for counting purposes, retail gasoline outlets from other types of business. This includes the motor vehicle, licensing and tax departments or divisions in more than half of the states.

The lack of official counts by many of these departments prompted *NPN*'s survey staff to pursue other responsible sources in state administrations who have reasonable knowledge of their state's gasoline marketplaces and are in a position to make reliable estimates. These included officials with state weights and measures departments which, while not responsible for station totals, were responsible for tracking every retail gasoline pump in operation.

NPN also contacted key trade associa-

Wash.
Mont.
N.D.
Minn.
Ore.
Idaho
S.D.
Wis.
Wyo.
Mich.
Iowa
N.Y.
Neb.
Vt.
Maine
N.H.
Mass.
R.I.
Conn.
Penn.
Ill.
Ind.
Ohio
N.J.
Nev.
Utah
Colo.
Kan.
Mo.
W. Va.
Del.
Md.
Wash. D.C.
Ky.
Va.
Calif.
Tenn.
N.C.
Okla.
Ark.
Ariz.
N.M.
S.C.
Miss.
Ala.
Ga.
Texas
La.
Fla.
Alaska
Hawaii
Increase/ No Change
Decrease

tion executives because of their specialized knowledge of their markets.

As a result, approximately two-thirds of the figures compiled by *NPN* are "hard" numbers—figures based on registration, licensing and tax division reports. The data for the remaining one-third of these states range from unofficial estimates to "guesstimates" in a couple of states based on the best available information.

Accounting for differences

A review of the state data in the accompanying table would seem to indicate some of the state totals are out of whack, in terms of the ratio of outlets to total state population, especially when compared to the numbers in other, more populous states.

State demographics such as urban-rural concentrations figure prominently in determining the number of outlets a particular state has.

North Carolina, for example, reported a outlet count of 10,244 at the beginning of this year, a much higher figure than those reported for several more populous states. North Carolina has a very accurate annual reporting procedure that collects all retail gasoline outlet data on a county-by-county basis, indicating that the state's numbers are highly reliable. But, as one state association official points out, the state has a much higher proportion of small, rural, 10,000-20,000 gal./mo. locations, giving North Carolina a higher per capita outlet count than more populous states such as New York.

It's interesting, too, to compare North Carolina's detailed state-generated numbers for 1991 with those "50 percenter" stations tallied in the Census Bureau's 1987 figures. The state people came up with a total almost three times the number recorded by the Bureau. It appears there are over 6,000 retail gasoline outlets in the state that the world didn't know about until last year.

For this 1992 report, *NPN*'s staff has fine-tuned the research and the data presented for a few states, based on more reliable information being available this time around. Illinois is one example. Last year, despite contacts with every source *NPN* could identify, the numbers published for the state, which were based on an "educated guess" offered by an Illinois state official, turned out to be unrealistically high, to say the least. This year, a thorough search by staffers turned up a more reliable and authoritative number from a source at Illinois' Weights and Measures Div.

As indicated in last year's report, *NPN* plans to update its state-by-state outlet tally every year. Since some of the states are already improving their counting procedures, it is expected that future surveys will become more and more accurate with each passing year.

1992 Retail Outlet Population

	NPN Survey		Census Data	
	1992 (a)	**1991 (a)**	**1987 (b)**	**1972 (c)**
Alabama	6,500	6,500	2,229	4,510
Alaska	296	300	214	241
Arizona	2,425	4,010	1,241	2,357
Arkansas	3,592	3,764	1,357	3,144
California	13,140	13,800	9,812	19,513
Colorado	3,281	3,400	1,568	3,170
Connecticut	1,850	1,900	1,671	2,798
Delaware	508	450	279	557
Dist. of Col.	180	134	115	318
Florida	10,062	10,152	5,933	9,199
Georgia	7,000	7,000	3,273	6,730
Hawaii	407	392	355	480
Idaho	1,073	1,123	588	1,193
Illinois	5,749	10,100	4,655	10,211
Indiana	3,901	4,500	2,854	6,235
Iowa	3,783	4,169	2,020	2,613
Kansas	2,896	3,062	1,576	3,609
Kentucky	2,360	2,446	2,058	3,921
Louisiana	9,497	6,600	1,934	3,921
Maine	1,500	700	673	1,224
Maryland	2,245	2,450	1,846	3,012
Massachusetts	4,500	2,500	2,738	4,698
Michigan	6,905	8,500	4,164	8,919
Minnesota	3,157	3,598	2,289	4,585
Mississippi	6,127	6,000	1,374	2,727
Missouri	5,895	7,200	3,119	6,280
Montana	1,432	1,400	548	1,190
Nebraska	2,008	3,000	1,163	2,265
Nevada	694	450	441	798
New Hampshire	1,069	1,050	534	888
New Jersey	3,800	3,860	3,791	5,768
New Mexico	1,858	2,066	696	1,831
New York	7,000	6,800	5,982	11,359
North Carolina	10,244	10,643	3,547	6,946
North Dakota	983	1,245	471	910
Ohio	6,632	6,205	5,362	11,723
Oregon	2,091	2,165	1,352	2,828
Oklahoma	4,450	4,700	1,705	4,153
Pennsylvania	5,790	6,000	5,192	11,256
Rhode Island	703	602	487	901
South Carolina	4,776	5,200	1,833	3,720
South Dakota	1,245	1,245	556	1,171
Tennessee	6,000	6,000	2,491	5,157
Texas	9,900	11,000	8,568	17,118
Utah	2,116	2,137	849	1,504
Vermont	854	856	369	596
Virginia	6,400	6,000	2,740	4,648
Washington	5,306	3,500	2,003	3,945
West Virginia	2,700	2,800	1,013	2,156
Wisconsin	4,388	5,074	2,735	5,182
Wyoming	1,175	1,372	415	772
Total U.S.	**202,443**	**210,120**	**114,746**	**226,459**

(a) This compilation embraces all outlets where gasoline is sold at retail. It includes service stations, convenience stores, car washes, etc., a universe, in effect, of retail gasoline outlets. The surveys were completed in March 1992 and January 1991, respectively.

(b) These are the U.S. Bureau of the Census figures for 1987, but include only those service stations that have employees and payrolls and generate more than half their income from gasoline sales. Automatically excluded were convenience stores, car washes, etc.

(c) These are the U.S. Bureau of the Census figures for 1972 and are generally considered a "universe count" because only a handful of places, beyond orthodox service stations, sold gasoline at retail at that time.

Sources: NPN state-by-state telephone survey for 1992 and 1991; U.S. Bureau of the Census, Census of Retail Trade, 1987 and 1972.

U.S. Gasoline Shares by Key Categories:

Region	Service Stations 1991	1990	1989	1988	1987	Pumpers 1991	1990	1989	1988	1987
Northeastern Region										
• % of Outlets	59.1	60.6	61.0	64.3	58.7	24.0	22.3	21.7	19.7	24.4
• % of Volume	52.5	54.7	55.9	58.0	52.4	41.3	39.2	38.5	36.6	41.7
• Avg. Monthly Gallonage	64,523	62,611	64,132	58,378	58,914	24,894	121,861	123,818	[illegible]	[illegible]
Midwestern Region										
• % of Outlets	35.3	35.9	36.0	38.4	39.0	44.0	43.7	44.2	42.5	39.8
• % of Volume	27.7	28.2	27.9	31.3	32.6	63.3	63.0	62.5	61.6	58.1
• Avg. Monthly Gallonage	59,156	59,220	59,197	58,959	59,152	108,550	106,706	107,771	104,937	105,714
Sunbelt Region										
• % of Outlets	20.4	22.0	24.4	25.3	27.2	35.3	34.5	32.6	32.2	30.0
• % of Volume	21.8	23.4	23.5	24.3	26.8	59.1	57.8	57.1	56.5	54.0
• Avg. Monthly Gallonage	66,017	55,613	55,943	55,853	57,045	103,859	101,853	101,915	101,761	104,383
Western Region										
• % of Outlets	44.3	45.6	45.8	48.3	52.9	35.6	34.2	34.1	32.2	31.9
• % of Volume	41.2	42.6	45.2	46.3	45.1	51.8	50.0	47.5	46.4	48.3
• Avg. Monthly Gallonage	85,610	70,428	65,056	60,868	56,100	133,676	127,931	120,367	113,735	114,870
United States Total										
• % of Outlets	38.0	38.4	39.8	42.2	43.7	33.9	33.2	32.3	30.9	29.6
• % of Volume	35.6	36.4	37.7	39.3	40.9	53.6	52.5	51.2	50.0	48.7
• Avg. Monthly Gallonage	68,972	62,479	61,669	58,021	56,983	115,107	112,230	110,898	108,226	112,106

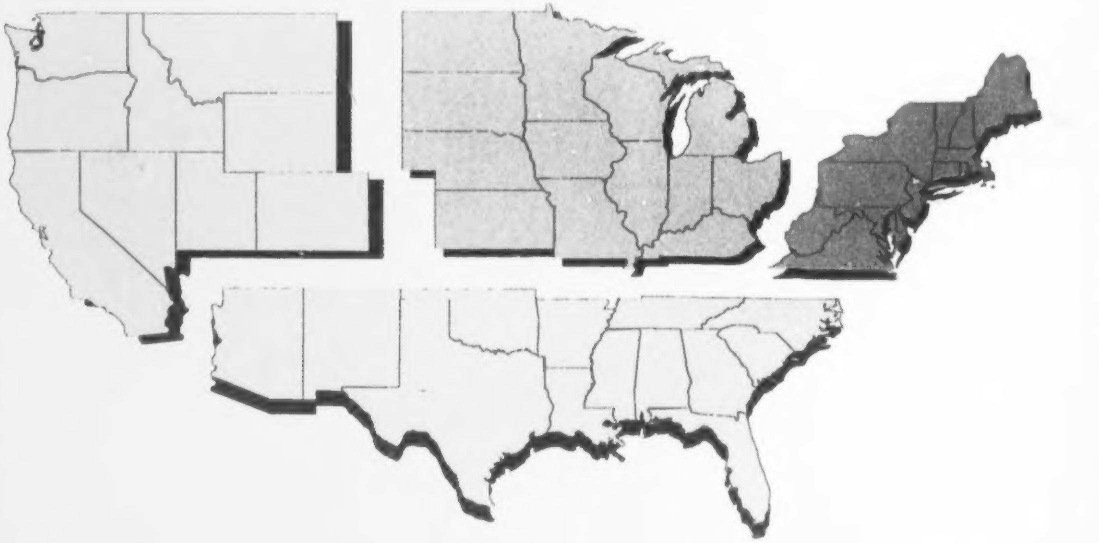
Source: MPSI Inc., Tulsa, Okla.

A study of U.S. retail gasoline market shares was undertaken in 1985 by MPSI Inc., Tulsa, Okla., a firm specializing in international computer software and information services as well as market research and planning.

This year, for the first time, gasoline market share data is presented for a five-year period—1987 through 1991—to provide an overview of the trends and changes within the key categories of gasoline retailing.

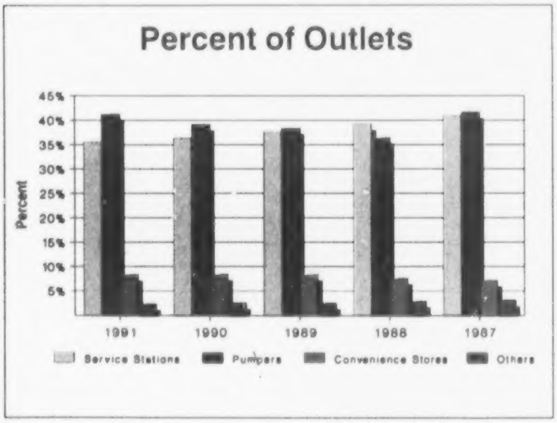
The study breaks out, both nationally and regionally, gasoline market shares and percentages of total outlets for conventional service stations, volume pumpers, convenience stores selling gasoline, plus a catch-all category of "others," including car washes, garages and other facilities.

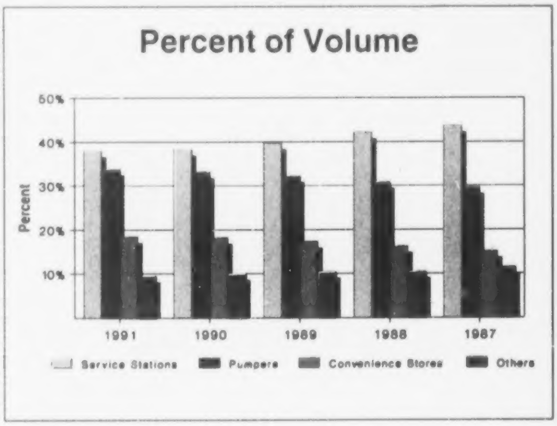
This study covers primarily the metropolitan areas of the United States where most gasoline is marketed. No attempt was made to count rural vendors or highway units, which while important to the industry, do not add greatly to overall consumption.

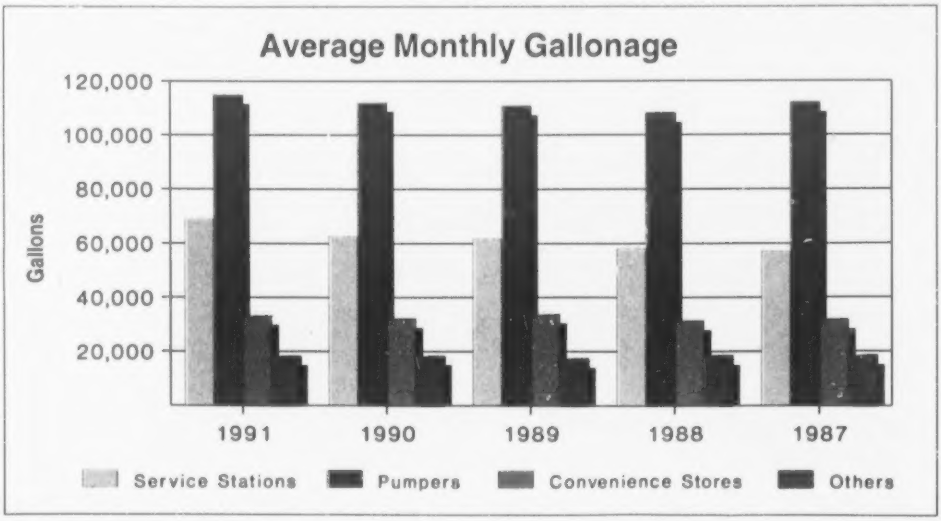


A Five-Year Overview

Convenience Food Stores					Others					Total				
1991	1990	1989	1988	1987	1991	1990	1989	1988	1987	1991	1990	1989	1988	1987
6.7	6.3	6.2	5.0	5.2	10.2	10.8	11.1	10.4	11.7	100.0	100.0	100.0	100.0	100.0
3.8	3.6	3.4	2.8	2.9	2.4	2.5	2.2	2.6	3.0	100.0	100.0	100.0	100.0	100.0
41,287	39,847	38,591	36,762	37,807	16,676	15,974	14,252	16,048	16,766	72,580	69,380	69,996	65,252	63,379
9.7	9.2	8.3	7.2	8.6	11.0	11.2	11.5	11.9	12.5	100.0	100.0	100.0	100.0	100.0
6.3	6.0	6.8	4.1	6.0	2.7	2.8	2.8	3.0	3.3	100.0	100.0	100.0	100.0	100.0
48,987	46,642	43,077	41,472	46,202	18,611	18,802	18,327	18,154	19,059	75,457	74,782	76,256	72,369	72,751
34.5	33.2	32.2	31.3	30.2	9.8	10.3	10.8	11.2	12.6	100.0	100.0	100.0	100.0	100.0
16.3	15.7	16.0	15.5	15.2	2.8	3.1	3.4	3.7	4.0	100.0	100.0	100.0	100.0	100.0
29,182	28,735	28,934	28,734	28,995	17,834	18,343	18,176	18,902	18,646	61,938	58,798	58,173	58,029	57,916
12.7	12.4	11.9	10.6	7.1	7.4	7.8	8.2	8.9	8.9	100.0	100.0	100.0	100.0	100.0
5.2	5.4	5.3	4.9	4.3	1.8	2.0	2.0	2.4	2.3	100.0	100.0	100.0	100.0	100.0
37,725	36,252	36,186	36,769	36,850	22,321	22,593	20,987	21,560	20,907	92,032	82,356	81,352	79,108	69,515
18.5	18.3	17.4	16.3	15.2	9.6	10.1	10.5	10.6	11.5	100.0	100.0	100.0	100.0	100.0
8.4	8.5	8.5	7.7	7.2	2.4	2.6	2.6	3.0	3.2	100.0	100.0	100.0	100.0	100.0
33,357	32,220	33,948	31,387	31,780	18,389	18,524	17,631	18,552	18,656	73,255	69,036	70,023	66,740	65,079


Percent of Outlets


Percent of Volume


Average Monthly Gallonage

Retail Market

Business at Service Stations

(Dollar Volume and Product Sales)

					Gasoline	
Year	No. of Service Stations(a)	Total Sales (000,000,000)	Avg. Sales per station (000)	Passenger Car Population (000)	Avg. gal. consumed per car per year	Total consumption (000,000 gal)(b)
1990 (a)	210,120	—	—	143,550	505	72,626
1989 (b)	111,700	$115.0	$1,030	143,081	510	72,956
1988	112,000	91.9	821	141,252	511	72,149
1987	115,870	89.2	770	137,324	515	70,763
1985	124,600	100.8	809	132,108	526	69,450
1983	136,570	103.1	755	126,728	577	73,156
1981	151,250	101.7	672	123,462	581	71,178
1972(c)	226,459	33.7	149	96,567	785	75,805

Station Customers

(Billions of dollars)

		Privately Owned Passenger Cars		Households Owning Cars*		Licensed Drivers		Women Drivers	
Year	No. of Service Stations(a)	Total (000)	Avg. Per Station	Total (000)	Avg. Per Station	Total (000,000)	Avg. per Station	Total (000,000)	Avg.Per Station
1991	202,443	145,043	716	81.0	400	169.2	836	82.4	407
1990 (b)	210,120	143,550	683	80.0	381	167.0	795	81.2	387
1989	111,700	143,081	1,281	78.5	703	165.6	1,483	80.2	718
1988	112,000	141,252	1,261	78.0	696	162.9	1,454	78.7	703
1987	115,870	137,324	1,185	77.0	665	161.8	1,396	77.8	671
1985	124,600	132,108	1,060	75.0	602	156.9	1,259	75.3	604
1983	136,570	126,728	927	73.0	534	154.2	1,129	73.4	537
1981	151,250	123,462	816	70.0	460	147.0	969	69.2	457
1972(b)	226,459	96,567	426	52.8	232	118.4	522	52.6	232

(a) In late 1990, *NPN* began its own annual survey of service stations to come up with a semi-official count. Totals for 1990-1991 include all retail outlets where consumers can buy gasoline (service stations, C-stores, car rental facilities, etc.). Totals before 1990 are from the U.S. Dept. of Commerce, *Franchising in the Economy*, and Census Bureau data, which count only those stations that get 50% or more of their gross sales from gasoline products.

(b) Revised.

(c) Peak year.

Source: NPN, Federal Highway Administration, U.S. Dept. of Commerce.

How Stations Rank in Sales

(Billions of dollars)

Station	1991	% Change 1991-1990 (a)	1990	% Change 1990-1989(b)	1989	% Change 1989-1988	1988	% Change 1988-1987
All Retail Stores	$1,819	—	1,807	3.7%	1,742	6.9%	1,629	7.8%
Automotive Group	374	1.8%	381	—	383	3.8	369	12.9
Food Group	370	2.2	362	4.9	345	3.9	332	5.7
General Merchandise	217	2.8	211	3.4	204	10.9	184	4.5
Eating & Drinking	189	3.8	182	4.6	174	10.1	158	6.7
Gasoline Service Stations	128	3.0	132	11.9	118	15.7	102	1.4
Apparel Group	84	11.6	95	4.4	91	11.0	82	2.3

(a) Preliminary.

(b) Revised.

Source: U.S. Dept. of Commerce, Survey of Current Business, Vol. 72, No.1, Table S-8, January 1992.

Personal Consumption Expenditures

(billions of dollars)

Station	1991	% Change 1991-1990 (a)	1990	% Change 1990-1989 (a)	1989	% Change 1989-1988	1988	% Change 1988-1987
Total Expenditures	**$3,887**	**3.8%**	**$3,743**	**5.4%**	**$3,470**	**7.3%**	**$3,235**	**7.7%**
Durable Goods	445	(4.5)	466	1.7	474	4.2	455	7.8
Automobiles & Parts	184	(9.8)	204	—	214	1.1	212	8.2
Furniture	172	—	173	1.7	174	7.2	162	10.6
Other Durable Goods	90	—	89	7.0	86	5.3	82	4.9
Nondurable Goods	1,251	2.7	1,218	6.3	1,123	6.7	1,052	5.5
Food	619	3.9	596	5.0	595	6.3	560	6.4
Clothing & Shoes	211	—	209	6.5	200	7.0	187	4.7
Gasoline & Oil	103	3.8	107	11.9	84	8.7	77	(0.2)
Fuel Oil & Coal	12	—	13	(0.5)	20	3.6	20	20.4
Other Nodurable Goods	307	4.4	294	8.9	224	6.9	210	4.7
Services	2,191	6.4	2,059	5.8	1,874	8.5	1,728	8.5

(a) Revised.

Source: U.S. Dept. of Commerce, Survey of Current Business, Vol.72, No.1, Table 2.2, January 1992.

Major Brand Retail Outlet Rankings

Company	No. of Outlets	1990 Ranking
1. Citgo	11,319	(5)
2. Exxon	10,876	(2)
3. Amoco	9,679	(4)
4. Chevron	9,242	(6)
5. Mobil	9,068	(8)
6. Unocal (a)	9,000	(3)
7. Shell	8,975	(7)
8. Star Enterprise	8,653	—
9. BP America	7,499	(10)
10. Phillips	7,474	(9)
11. Sun	5,854	(11)
12. Texaco (b)	4,934	(1)
13. Conoco	4,612	(12)
14. Fina	2,919	(14)
15. Total	2,776	(15)
16. Sinclair	2,490	—
17. Marathon	2,106	(17)
18. Getty	2,038	(16)
19. Diamond Shamrock	1,918	(19)
20. Ashland	1,848	(18)
21. Arco	1,626	(21)
22. Emro Marketing	1,590	—
23. Gulf (Cumberland Farms)	NA	(13)

(a) Includes UNO-VEN.
(b) Does not include Star Enterprise.
— = Not reported in 1990.

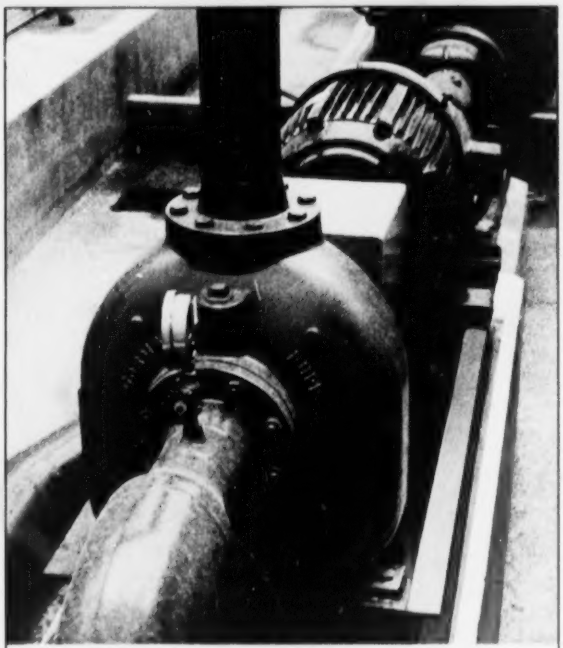
After several years of relative stability, the branded retail outlet rankings of the major and semi-major companies were scrambled considerably in 1991. Citgo, that scrappy refiner-marketer out of Tulsa, now wears the crown as the top-ranked U.S. retail marketer in terms of branded outlets supplied (a total of 11,319), having leaped from No. 5 in 1990 to No. 1 at the end of last year. Citgo added almost 1,600 units during the year.

However, perhaps an asterisk should be placed behind Citgo's listing, ala Roger Maris' home run record. This year, Texaco, which for many years claimed the top spot in the retail rankings, broke out its report into its Texaco Refining and Marketing and Star Enterprise component companies, and they are listed as they were reported. Adding up the two Texacos produces a total of 13,587 branded retail outlets.

More significant than the rankings is the continued downsizing of the majors' retail networks. Among the top 10 companies in the 1991 listing (counting Star/TRMI as one company), eight reported a combined loss of 5,245 units. Two companies added 1,654 outlets, with Citgo gaining 1,585 of those. Among the remaining companies, eight reported fewer outlets in 1991 and three reported adding units.

Company	Number of States		Branded Retail Outlets	
	1991	1990	1991	1990
Amoco	32	33	9,679	9,802
Arco	5	5	1,626	1,541
Ashland	18	18	1,848	1,968
BP America	33	33	7,499	7,531
Chevron	32	33	9,242	9,664
Citgo	46	46	11,319	9,734
Conoco (a)	36	37	4,612	4,915
Diamond Shamrock	8	8	1,918	1,914
Emro Marketing	16	—	1,590	—
Exxon	39	40	10,876	11,673
Fina	25	23	2,919	3,136
Getty	12	13	2,038	2,202
Gulf (Cumberland Farms)	NA	14	NA	3,994
Kerr-McGee	13	20	1,313	1,588
Marathon	9	9	2,106	2,132
Mobil	34	32	9,068	9,001
Phillips	29	29	7,474	7,907
Shell	41	41	8,975	9,389
Sinclair	21	20	2,490	2,612
Star Enterprise	25	—	8,653	—
Sun	27	28	5,854	6,019
Texaco (b)	49	24	4,934	15,111
Total	22	22	2,776	2,698
Unocal (c)	44	44	9,000	10,500

— = Not reported in 1990.
(a) 1989 figures.
(b) 1991 figures do not include Star Enterprise.
(c) Includes UNO-VEN.
Source: NPN questionnaires.



PETROLEUM HANDLING PUMPS

Gorman-Rupp "O" Series self-priming centrifugal pumps feature straight in suction which eliminates entrance restrictions and provides better suction performance when handling solvents, petroleum products and similar liquids.

Ideal for tank car, tank farm, barges, bulk plant or factory applications.

Pumps range in size from 2" to 6", capacities to 1350 gpm, heads to 390'.

Basic, electric motor driven, PTO and engine driven models available.

Call or write for more information.

GR GORMAN-RUPP

Gorman-Rupp Company
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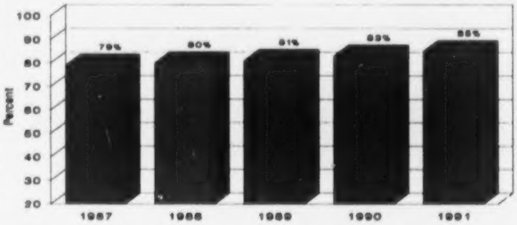
Self-Serve Preference Still Growing

American motorists are pumping their own gasoline at a record pace as self-serve gasoline sales reached 85% of all gasoline dispensed last year. That's a 2% hike from 1990, according to market research conducted by Amoco Oil Co., Chciago.

Competitive prices, quick service and the increasing availability of self-serve 24-hour service stations all contributed to the increase. The 1991 survey shows that self-serve market share in the U.S. increasing in 44 states and the District of Columbia. The largest gains were in New Hampshire and Pennsylvania, where market share in both states increased 6% to 77% overall.

Self-Serve Market Share—Total U.S.



Self-Serve Motorist Gasoline Market Share

(By State in Percent)

State	1991	1990	Chg.
Alabama	88	85	+3
Arizona	96	95	+1
Arkansas	89	87	+2
California	94	93	+1
Colorado	96	95	+1
Connecticut	81	77	+4
Delaware	92	88	+4
Dist. of Col.	91	89	+2
Florida	96	94	+2
Georgia	93	91	+2
Idaho	92	91	+1
Illinois	93	91	+2
Indiana	90	89	+1
Iowa	91	87	+4
Kansas	90	87	+3
Kentucky	84	83	+1
Louisiana	94	93	+1
Maine	65	62	+3
Maryland	90	89	+1
Massachusetts	62	57	+5
Michigan	92	90	+2
Minnesota	88	86	+2
Mississippi	89	86	+3
Missouri	90	88	+2
Montana	93	92	+1
Nebraska	87	83	+4
Nevada	95	94	+1
New Hampshire	77	71	+6
New Mexico	96	92	+4
New York	67	63	+4
North Carolina	93	91	+2
North Dakota	87	84	+3
Ohio	91	88	+3
Oklahoma	90	89	+1
Pennsylvania	77	71	+6
Rhode Island	73	71	+2
South Carolina	93	91	+2
South Dakota	85	83	+2
Tennessee	90	87	+3
Texas	95	93	+2
Utah	95	96	-1
Vermont	68	61	+7
Virginia	93	91	+2
Washington	95	94	+1
West Virginia	85	81	+4
Wisconsin	93	92	+1
Wyoming	87	87	NC

C-Store Sales Edge Up, Profits Flat

There are pluses and minuses on the 1991 report card for the convenience store industry. Overall convenience store sales, paced by increases in gasoline revenues, edged up a notch from $74.5-billion in 1990 to $75.1-billion last year. However, a number of convenience store companies were apparently unable to convert store revenues into net earnings.

According to preliminary data from the *1992 State of the Convenience Store Industry* report from the National Assn. of Convenience Stores (NACS), total industry profit before taxes was zero in 1991. The NACS study points out that this is an improvement over 1990, when the industry had a combined loss of $149-million.

For the first time, the total industry C-store count declined from the previous year, from 71,200 in 1990 to 69,600 in 1991. New store construction dropped from 4.1% of the C-store base in 1991 to 1.4% last year. Almost 60% of new store openings in 1991 were in rural areas, NACS reports. Average cost of a new rural store was $620,000, compared to $965,000 for an urban location.

Per store sales increased for both gasoline (up 6.4%) and merchandise (plus 1.4%) in 1991. The average C-store had $576,000 in merchandise sales and $773,400 in gasoline sales.

C-Store Gross Margin

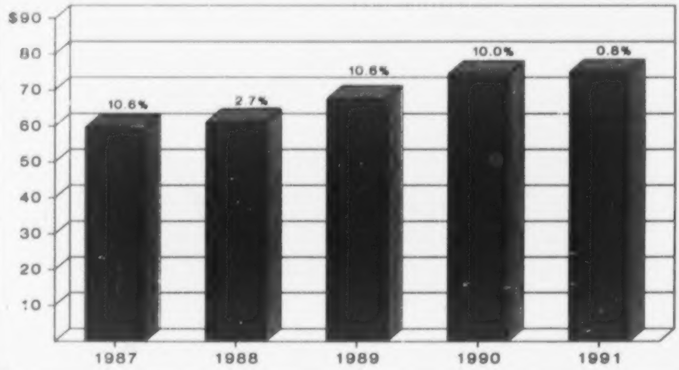
As a percent of sales

Survey Year	Gasoline Margin %	Non-Gasoline Margin %	Average Margin %
1990	10.4%	32.4%	20.7%
1989	11.7	32.1	21.8
1988	11.5	36.4	26.2
1987	10.6	35.9	24.4
1986	11.2	35.5	25.1
1985	7.3	32.2	22.8

Top Ten Product Categories

As a percent of merchandise purchases

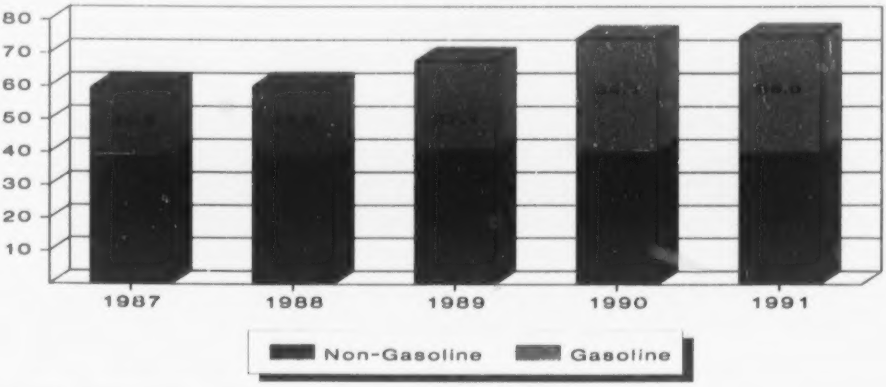
1.	Tobacco	24.9%
2.	Beer	12.7
3	Fast Food	12.1
4	Soft Drinks	9.1
5.	Milk & Milk Products	5.6
6.	Candy & Gum	5.2
7.	Salty Snacks	4.6
8.	Groceries	4.4
9	Publications	4.3
10	Bread & Cakes	3.7


Total Convenience Store Industry Sales

Billions of dollars/percent change

Total Non-Gasoline vs. Gasoline Sales

Billions of dollars



Source: NACS 1992 State of the Convenience Store Industry.

Industry Averages by Product Category

Product	Percentage of Merchandise Purchases		Gross Margin Percentage		Inventory Turnover Rate	
	1991	1990	1991	1990	1991	1990
Cooler						
Beer	12.7%	14.2%	24.0%	24.0%	18.2	21.2
Soft Drinks	9.1	9.4	34.0	34.0	13.5	16.9
Juices	2.2	2.1	40.0	40.0	10.4	11.1
Milk & Milk Products	5.6	5.2	24.0	23.0	67.0	51.9
Packaged Deli	0.8	0.9	33.0	35.0	22.4	23.9
Produce	0.2	0.1	31.0	31.0	44.6	25.4
Eggs	0.2	0.1	29	22	16.9	16.9
Frozen						
Frozen Food	1.2	1.2	34.0	34.0	7.8	6.4
Ice Cream	1.6	2.5	39.0	38.0	11.7	13.0
Ice	0.8	0.8	57.0	58.0	16.8	13.8
Room Temp.						
Bread & Cakes	3.7	3.6	31.0	31.0	60.7	54.0
Cookies	0.7	0.5	35.0	36.0	9.1	12.5
Salty Snacks (Chips, Nuts, Etc.)	4.6	4.5	37.0	37.0	16.9	19.1
Candy & Gum	5.2	5.4	43.0	45.0	9.0	9.9
Groceries	4.4	2.9	34.0	33.0	5.9	7.0
Health & Beauty	2.5	2.5	37.0	39.0	4.9	5.2
Tobacco	24.9	24.0	25.0	26.0	13.5	14.1
Publications	4.3	4.2	20.0	21.0	13.7	13.9
Wine & Liquor	0.8	0.9	28.0	31.0	6.8	9.0
Auto & Motor Oil	0.9	0.7	38.0	38.0	11.6	8.6
General Merchandise	1.5	3.4	41.0	40.0	8.7	8.8
Fast Food						
Sandwiches (Fresh)	1.0	0.9	46.0	49.0	51.5	56.1
Sandwiches (Frozen)	0.9	1.0	39.0	39.0	15.0	16.0
Deli Services*	1.4	1.1	34.0	34.0	43.5	34.1
Food Cooked On-Site	0.5	1.0	48.0	36.0	65.2	45.2
Fountain Drinks	3.4	3.5	59.0	59.0	29.8	17.7
Frozen Beverages	0.9	0.6	57.0	53.0	28.6	10.9
Hot Beverages	2.6	2.4	71.0	68.0	33.6	16.5
Other Fast Food	1.4	0.4	43.0	16.0	33.9	12.1
Total Merchandise	**100%**	**100%**	**33%**	**32%**	**11.5**	**11.4**

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* Except Sandwiches.

Source: National Assn. of Convenience Store (NACS) 1992 State of the Convenience Store Industry report.

Comparison of Profits and Losses, 1990 — 1991

(Percent of Total Sales)

	11-50 stores		51-100 stores		101-500 stores		501+ stores		Average	
	1991	1990	1991	1990	1991	1990	1991	1990	1991	1990
Merchandise Sales	37.1%	32.0%	45.4%	49.5%	59.5%	41.5%	60.3%	57.1%	53.4%	54.2%
Gasoline Sales	62.9	68.0	54.6	50.5	40.5	58.5	39.7	42.9	46.6	45.8
Total Sales	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Cost of Goods Sold	83.0	83.2	79.8	78.6	76.5	80.8	76.2	75.8	79.2	79.3
Gross Profit	17.0	16.8	20.2	21.4	23.5	19.2	23.8	24.2	20.8	20.7
Direct Store Operating Expense	14.6	13.3	16.4	18.1	19.7	15.4	20.6	19.8	17.6	16.9
Store Operating Income	2.4	3.5	3.8	3.3	3.8	3.8	3.2	4.4	3.2	3.8
Corporate G & A	(2.4)	(2.8)	(3.0)	(3.2)	(3.7)	(2.9)	(4.0)	(4.4)	(3.2)	(3.4)
Other Income	1.3	1.0	1.5	1.4	1.2	1.0	1.2	1.0	1.3	1.1
Other Expense	(0.1)	(0.1)	(0.8)	(0.2)	(0.4)	(0.4)	(0.3)	(0.4)	(0.4)	(0.2)
Profit Before Interest Expense	1.2	1.6	1.5	1.3	0.9	1.5	0.1	0.6	0.9	1.3
Interest Expense	(0.6)	(0.4)	(0.5)	(0.7)	(1.4)	(1.4)	(1.4)	(3.2)	(0.9)	(1.5)
Pretax Profit (Loss)	0.6%	1.2%	1.0%	0.6%	(0.5%)	0.1%	(1.3%)	(2.6%)	0.0%	(0.2%)

Note: "Other Expense" excludes financial restructuring charges.

Source: NACS 1992 State of the Convenience Store Industry report.

Percent of Stores Offering Specialty Products, Services

	11-50 stores		51-100 stores		101-500 stores		501+ stores		Average	
	1991	1990	1991	1990	1991	1990	1991	1990	1991	1990
Specialty Products Offered										
Service Deli	17%	27%	32%	27%	51%	20%	32%	39%	34%	35
On-Premise Bakery	10	7	7	9	3	2	5	7	6	6
Fried Chicken	13	12	10	8	3	2	1	7	3	6
Hamburgers										
Cooked On-Site	5	—	2	—	2	—	<1	—	1	—
Frozen	18	—	20	—	38	—	55	—	47	—
Hot Dogs	59	72	62	63	72	54	66	78	66	74
Pizza	10	15	8	16	14	11	11	15	11	14
Services Offered										
Air Hose	76	NA	72	NA	48	NA	24	NA	43	NA
Automated Teller Machines	5	1	8	7	13	8	7	14	8	12
Check Cashing	34	49	48	50	59	73	23	41	35	46
Credit Cards	86	90	79	80	44	73	74	68	70	71
Debit Cards	13	14	22	28	0	8	<1	19	6	18
Dry Cleaning	<1	2	<1	<1	0	3	0	0	<1	<1
Event Tickets	4	8	7	4	11	11	2	3	4	4
Film Processing	3	1	2	3	7	8	1	0	2	1
Food Stamp Acceptance	58	53	71	73	85	77	67	36	70	45
Lottery Tickets	53	53	53	63	62	72	77	56	70	59
Manufacturer Coupon Acceptance	85	88	97	98	99	100	99	96	97	96
Microwave Equipment	92	95	93	79	87	82	90	95	90	92
Money Orders	58	61	71	73	80	65	77	79	75	75
Seating for Fast Food	22	27	13	12	8	8	2	3	6	6
Scrip Machine	0	NA	3	NA	0	NA	0	NA	<1	NA
Vending Machines	10	16	6	18	26	33	8	2	11	8
Video Games	13	19	26	31	24	31	54	57	44	50
Video Rentals	17	23	10	13	17	25	14	17	14	18
Parking/Access (a)										
No parking, but convenient pedestrian access	3	5	2	—	9	2	11	8	7	6
1-10 Striped Spaces	67	53	69	51	56	65	82	53	71	55
10+ Striped Spaces	30	43	29	48	35	33	7	6	22	39

(a) Does not include parking at pumps.

Source: NACS 1992 State of the Convenience Store Industry report.

Average Investment Per New Convenience Store

	1991		1990		1989		1988		1987	
Investment	**Urban**	**Rural**	**Urban**	**Rural**	**Urban**	**Rural**	**Urban**	**Rural**	**Urban**	**Rural**
Property										
Land	$294,000	$169,000	$298,300	$178,000	$375,300	$179,500	$350,500	$148,000	$266,000	$141,500
Building	331,900	198,000	264,300	194,700	278,200	183,200	199,150	156,500	181,300	152,800
Equipment										
Fast Food	44,300	25,000	48,000	16,600	33,900	23,100	21,900	17,100	22,100	17,700
Gasoline	173,100	125,000	153,900	107,500	118,300	103,900	84,500	95,200	84,900	85,300
Merchandise	54,300	65,000	54,500	41,000	51,700	38,000	65,600	62,500	64,500	51,500
Total	**271,700**	**215,000**	**256,400**	**165,100**	**203,900**	**165,000**	**172,000**	**174,800**	**171,500**	**154,500**
Inventory	**67,500**	**53,000**	**63,400**	**41,200**	**61,300**	**43,800**	**51,600**	**53,400**	**64,000**	**53,200**
Total Investment	**$965,100**	**$635,000**	**$882,400**	**$579,000**	**$918,700**	**$571,500**	**$773,300**	**$532,700**	**$682,800**	**$517,400**

Source: NACS 1992 State of the Convenience Store Industry report.

National Petroleum News'

Company	H.Q. Location	C-Store Name	No. of States Where Stores Are Located	Company Operated	Franchise Operated
ABC Discount Stores	**Honolulu, HI**	**ABC Stores/MNS Limited**	**1**	**48**	**0**
Acme Petroleum Fuel Co. Inc.	**Gastonia, NC**	**Handy Pantry Food Store**	**2**	**76**	**0**
Adena Minit Markets	**Douglas, GA**	**Aden's Minit Market**	**3**	**39**	**0**
Aldin Associates	**East Hartford, CT**	**Chucky's Food Store**	**1**	**31**	**0**
Allen Stop N Shops Inc.	Kingsville, TX	Stop-N-Shop/Jolly Rogers	2	55	0
Allsup's Convenience Stores Inc.	Clovis, NM	Allsup's Convenience Store	3	305	0
Amerada Hess Co.	Woodbridge, NJ	Hess Mart	5	127	0
American Accessories Inc.	Beckley, WV	Little General	2	30	4
American Personnel Service	**Pleasanton, CA**	**APSI/Chevron Food Mart**	**6**	**64**	**0**
Amoco Oil Co.	**Chicago, IL**	**Amoco Food Shop**	**27**	**268**	**1,356**
Arco Products Co.	**Los Angeles, CA**	**am/pm Mini Market**	**5**	**N/A**	**N/A**
Arkansas Valley Petroleum Corp.	**Tulsa, OK**	**Git-N-Go**	**2**	**0**	**15**
Ashland Oil, Inc.	Ashland, KY	SuperAmerica	17	624	38
Atlas Oil Co.	East Hartford, CT	Atlas Store	2	18	0
Aztex Enterprises	Knoxville, TN	Aztex	1	21	0
B & B Cash Grocery Stores	Tampa, FL	Handy Food Store	1	33	0
Baron Oil Co.	**Jacksonville, FL**	**Baron Convenient Plus**	**1**	**24**	**0**
Beird Co.	**Boise, ID**	**Go-Fer**	**1**	**6**	**0**
Bearden Oil Co.	**Eastman, GA**	**Shorty's Quick Shop**	**1**	**8**	**3**
Beck Suppliers	**Sandusky, OH**	**Friendship Convenience Store**	**1**	**2**	**0**
Bedford Valley Petroleum Corp.	Everett, PA	RG's Food Shop	3	6	0
Bell Fuels, Inc.	Chicago, IL	Road Pilot/Road Pantry	1	9	0
Berwick Bay Oil Co. Inc.	Morgan City, LA	Friends/Delta Mart	2	38	2
Best Oil Co.	Pittsburgh, PA	Toot-N-Scoot	2	19	0
Big Apple Food Stores	**South Paris, ME**	**The Big Apple**	**2**	**43**	**0**
Bi-Rite Petroleum, Inc.	**St. Louis, MO**	**Coastal Mart**	**1**	**3**	**0**
Blaze Oil Co.	**Casper, WY**	**Common Cents**	**1**	**5**	**0**
Boardman Petroleum Inc.	**Augusta, GA**	**Smile Gas**	**5**	**50**	**0**
Bosselman's Oil Co.	Grand Island, NE	Pump & Pantry	1	34	0
BP America, Inc.	Cleveland, OH	BP Shop	15	800	0
Bradley, Inc.	Denver, CO	Bradley Food Mart	2	19	0
Broken Hill Prop./Pacific Resources	Honolulu, HI	Express Mart	1	N/A	N/A
Brooks Food Markets	**Minnetonka, MN**	**Brooks Food Market**	**1**	**32**	**2**
C.R. Brown Oil Co.	**Grand Junction, CO**	**Go-Fer Foods**	**3**	**3**	**16**
Browning Oil Co.	**Bowling Green, KY**	**Shell Food Mart**	**1**	**10**	**3**
Burgess Marketing, Inc.	**Waco, TX**	**Various**	**1**	**N/A**	**N/A**
Bursaw Oil Corp.	Danvers, MA	Pump 'N Pantry	1	8	0
By-Lo Oil Co.	Port Huron, MI	Speedy Q Market	1	15	0
California-Fresno Oil Co.	Fresno, CA	Food Store	1	2	0
Callahan Oil Co.	New London, CT	Grampy's	6	22	0
Camp Oil Co.	**Rome, GA**	**Smile/Sav-A-Ton**	**9**	**45**	**0**
Campbell Oil Co.	**Massilon, OH**	**Spee D Foods**	**1**	**11**	**28**
Cannon Oil Corp.	**Dothan, AL**	**Cannon**	**3**	**16**	**0**
Casey's General Stores, Inc.	**Des Moines, IA**	**Casey's**	**8**	**0**	**202**
Cel Oil Products Corp.	North Charleston, SC	Unocal Mart	1	7	0
CENEX Petroleum, Inc.	St. Paul, MN	Cenex C-Store/Town Mart	12	20	289
Centennial Liquor Stores	Dallas, TX	Quik Shop	1	9	0
Center Independent Oil Co.	Smock, PA	Sweet Peas	1	5	0
Certified Oil Co.	**Columbus, OH**	**Certified Mini Mart**	**1**	**18**	**0**
CF Marts of Pennsylvania	**Clarks Summit, PA**	**Convenient Food Mart**	**1**	**4**	**23**
CFM Development Corp.	**Wheeling, WV**	**Convenient Food Mart**	**2**	**1**	**28**
Champlain Oil Co.	**South Burlington, VT**	**Colonial Deli Mart**	**4**	**74**	**0**
Chapman, Inc.	Sherman, TX	Food Mart	1	5	10
Chevron USA, Inc.	San Francisco, CA	Chevron FoodMart	25	516	514
Chico Dairy, Inc.	Morgantown, WV	Dairy Mart Foods	4	39	0
Chiles Oil, Inc.	Pulaski, TN	Snappy's/Parkway Market	1	2	0
CHR Corp.	**York, PA**	**Rutter's Farm Store**	**1**	**51**	**0**
Christy's Markets, Inc.	**Brockton, MA**	**Christy's**	**4**	**116**	**18**
Circle C Food Stores	**Huntsville, AL**	**Circle C Food Store**	**1**	**N/A**	**N/A**
The Circle K Corp.	**Phoenix, AZ**	**Circle K Convenience Store**	**32**	**0**	**63**
Citgo Petroleum Corp.	Tulsa, OK	Quik Mart/Citgo Quick Mart	2	15	0
Clark Oil & Refining Corp.	St. Louis, MO	Clark	12	N/A	N/A
Clipper Petroleum, Inc.	Gainesville, GA	Circle M Food Mart	1	19	0
Cloud Enterprises, Inc.	Pell City, AL	Cloud Cupboards	1	29	0
Coastal Refining and Marketing, Inc.	**Houston, TX**	**Coastal Mart**	**28**	**N/A**	**N/A**
CoCo Marts, Inc.	**Burlington, VT**	**Jiffy Mart**	**3**	**17**	**0**
CoGo's Co.	**Pittsburgh, PA**	**CoGo's**	**1**	**65**	**0**
Colonial Oil Industries, Inc.	**Savannah, GA**	**Enmark**	**3**	**7**	**0**
Comet Oil Co.	Savannah, GA	Comet	2	2	0
Como Oil Co.	Duluth, MN	Milk House	2	3	12
Conoco Inc.	Houston, TX	Conoco/Jet	22	N/A	N/A
Consumers Gasoline Stations, Inc.	Nashville, TN	Scott/Consumer	3	45	0

KEY: N/A Precise figures not disclosed by company ? Plan to add C-stores, but exact number unknown — Does not pertain

Convenience Store Summary

1989 Total	1990 Total	1991 Current	1991 Projected	Additions Projected in 1992	Number With Gasoline	Avg. Gasoline Volume Per Store/Per Month		Size (Sq. Ft.)	
						Mini	Full	Mini	Full
N/A	N/A	48	?	3	3	—	N/A	—	2,500
95	90	76	69	0	71	N/A	N/A	800	2,000
33	39	39	N/A	0	39	N/A	N/A	N/A	N/A
N/A	31	31	?	?	24	—	N/A	—	N/A
55	63	55	62	0	55	—	80,000	—	3,200
300	305	305	305	0	305	N/A	N/A	600	2,400
N/A	100	127	140	20	127	—	150,000	—	1,200
25	30	34	36	1	33	N/A	N/A	900	2,000
N/A	N/A	64	69	5–10	64	220,000	—	N/A	—
1,200	1,902	1,847	N/A	N/A	1,847	120,000	—	1,000	—
720	731	752	N/A	N/A	746	N/A	N/A	800	1,800/1,900
13	14	15	15	0	15	—	60,000	—	2,400
595	601	662	N/A	N/A	600	—	N/A	N/A	1,800/4,000+
N/A	18	18	18	0	18	150,000	—	700/800	—
36	31	21	21	0	21	100,000	60,000	800	1,500
37	34	33	35	?	31	N/A	N/A	N/A	N/A
N/A	16	24	50	0	24	—	N/A	—	1,500
5	6	6	7	1	N/A	75,000	75,000	800	1,300/3,000
N/A	11	11	11	0	11	—	N/A	—	1,800/2,000
0	1	2	2	1	2	—	150,000	—	1,800
2	5	6	8	1–2	6	50,000	55,000	800	1,400
8	10	9	9	0	9	N/A	N/A	500	N/A
40	38	40	41	1	38	53,000	53,000	800	2,000
14	18	19	19	0	19	N/A	N/A	N/A	N/A
N/A	38	43	47	5	43	—	35,000	—	1,200
3	3	3	5	2	3	50,000	100,000	900	1,300
5	5	5	5	1	5	N/A	N/A	800	2,500
27	42	50	52	3	44	150,000	200,000	600	2,000
N/A	33	34	35	?	34	—	50,000	—	2,400
700	750	800	825	35	800	150,000	150,000	650	1,200
19	19	19	?	?	19	—	180,000	—	1,800
N/A	N/A	10	N/A	N/A	N/A	N/A	N/A	N/A	N/A
27	30	32	34	3–5	30	—	60,000	—	3,000
N/A	19	19	21	2	19	—	65,000	—	2,400
10	13	13	14	1	13	59,000	79,000	800	1,500
N/A	N/A	50	N/A	N/A	50	N/A	N/A	N/A	N/A
6	8	8	10	?	8	N/A	N/A	800	2,400
N/A	N/A	15	?	?	13	—	N/A	—	N/A
1	2	2	2	—	—	165,000	125,000	900	2,700
N/A	21	21	22	3	22	—	80,000	—	up to 6,000
N/A	47	45	46–49	?	47	N/A	N/A	N/A	1,800/2,400
45	45	39	?	?	14	75,000	80,000	—	2,300/3,300
16	16	16	16	0	16	—	75,000	—	1,800
732	769	781	800	30	781	—	38,000	—	2,375
N/A	6	7	N/A	?	7	—	125,000	—	N/A
225	309	309	337	27	309	38,000	60,000	800	2,200
8	9	9	?	?	5	N/A	N/A	N/A	N/A
4	4	5	?	?	5	—	—	—	—
N/A	15	18	22	?	18	—	N/A	—	2,400
27	26	27	3	3–5	6	—	N/A	—	3,200
29	29	29	31	1–3	1	—	N/A	—	3,500
53	72	74	8	0	74	50,000	45,000	—	2,400
15	15	15	18	3	15	40,000	60,000	800	1,500
N/A	1,030	1,030	1,080	50	1,030	150,000	150,000	600	1,200
39	39	39	36	3	33	N/A	—	N/A	—
2	2	2	2	0	2	—	25,000	—	2,100
49	51	51	52	3	32	—	58,000	—	2,400
N/A	132	134	136	10	32	—	50,000	—	2,600
N/A	34	30	?	?	29	—	11,000	—	1,400
4,664	4,783	3,859	3,600	0	3,186	30,000	40,000	900	2,800
N/A	16	15	15	?	15	125,000	200,000	400	2,400
N/A	N/A	905	N/A	N/A	905	N/A	—	300/900	—
N/A	19	19	20	1	18	100,000	75,000	900	2,350
N/A	59	29	29	?	29	—	N/A	—	2,000
N/A	N/A	572	N/A	N/A	572	60,000	60,000	N/A	2,000
N/A	16	17	16	1–2	15	—	35,000/40,000	—	2,400/2,800
N/A	65	65	68	3	22	—	N/A	—	2,400
6	6	7	6	0	6	100,000	200,000	500	3,000
2	2	2	2	0	2	35,000	—	500	—
12	15	15	16	0	15	—	55,000	—	1,800
477	476	476	494	17	476	91,000	—	1,000	—
N/A	43	45	45	?	45	45,000	N/A	N/A	N/A

C-Store Summary (Cont.)

Company	H.Q. Location	C-Store Name	No. of States Where Stores Are Located	Company Operated	Franchise Operated
Consumers Oil	Trenton, NJ	Hightstown Texaco	1	0	1
Con Sun Food Industries	Elyria, OH	Convenient Food Mart	1	14	22
Contemporary Industries Corp.	Omaha, NE	7-Eleven	7	93	22
Convenience Marketers Inc.	Bessemer, AL	JR. Food Mart	2	23	0
Convenient Food Mart	Schaumburg, IL	Convenient Food Mart	16	30	449
Convenient Petroleum Corp.	East Hartford, CT	Petro Panty Foods	1	9	0
Country Cupboard Food Stores, Inc.	Dawsonville, GA	Country Cupboard	1	41	0
Country Fair, Inc.	Erie, PA	Country Fair	3	N/A	N/A
Cox Oil Co.	Union City, TN	Little General	1	24	0
Cracker Barrel Stores, Inc.	Baton Rouge, LA	Cracker Barrel	1	61	0
Crown Central Petroleum Corp.	Baltimore, MD	Crown/Fast Fare/Zippy Mart	9	467	97(a)
Crown Oil Co.	Minneapolis, MN	E-Z Stop	3	26	0
Crystal Flash Petroleum	Indianapolis, IN	CF Deli Bake	1	24	0
Cumberland Farms, Inc.	Canton, MA	Cumberland Farms	11	1,118	0
Curt's Oil Co., Inc.	Muskogee, OK	Curt's	3	13	0
Curtis Parker Oil Co. Inc.	Shreveport, LA	Various	1	4	0
Dairy Mart Convenience Stores	Enfield, CT	Dairy Mart Convenience Store	11	724	465
Davis Co. Inc.	Perry, GA	Qwik Stop Food Plus	1	20	0
J.M. Davis Inc.	Morehead City, NC	Jim Dandy/Handy House	1	19	0
Day & Night Food Stores, Inc.	Vestal, NY	Day & Night Food Store	1	18	0
Dead River Oil Co.	Rumsford, ME	Food Trends	2	9	0
DeBlois Oil Co.	Providence, RI	DB Mart	2	29	0
Delicatessen Dist. Inc.	Pittsburgh, PA	Isaly's Store	2	0	20
Delta Sonic Carwash Sytstems	Buffalo, NY	Kiss Mart	2	19	0
Diamond Shamrock	San Antonio, TX	Corner Store	3	N/A	N/A
Dickey Inc.	Packwood, IA	Dickey Prairie Home	1	1	0
Dilmer Oil Co.	Latta, SC	Food Chief C-Store	1	22	0
District Petroleum Products	Sandusky, OH	Hy-Miler Food Store	1	23	2
Dixie Oil Co.	Tifton, GA	Dixie Food Store	3	68	0
Down East Energy Co.	Brunswick, ME	Puffin' Stop	2	22	0
Drakes Refinery Stations	Lansing, MI	Drakes Market Plus	1	16	0
Dunn Oil Co.	Salt Lake City, UT	Dunn's Kwik	1	6	0
East Coast Oil Corp.	Richmond, VA	East Coast	1	35	0
Eastern Fuels, Inc.	Ahoskie, NC	Red Apple	2	43	0
Emro Marketing Co.	Springfield, OH	Speedway/Starvin Marvin/Bonded/ECOL/Port/United/Checker/Gastown	16	1,168	0
Englefield Oil Co.	Newark, OH	Duchess Shoppe	2	53	0
Entrepreneur Inc.	Wilmington, NC	Scotchman's Store	5	159	0
Erickson Oil Products, Inc.	Hudson, WI	Freedom Value Center	4	45	0
Evans Group	Lebanon, NH	Evans Express Mart	2	7	0
Ever Ready Oil Co.	Albuquerque, NM	Various	1	10	0
Express Lane, Inc.	Panama City, FL	Express Lane	2	30	0
Exxon Company, USA	Houston, TX	Exxon Shop	27	346	350
EZ Mart Stores, Inc.	Texarkana, TX	EZ Mart	5	324	0
E-Z Serve Inc.	Kingsville, TX	Stop-N-Shop	1	55	0
Farm & Home Oil Co.	Telford, PA	Farm & Home Corner Store	1	5	0
Farm Fresh, Inc.	Wheeling, WV	Farm Fresh, Inc.	2	17	0
Farmland Industries	Kansas City, MO	AmPride	9	6	20
Farm Stores, Inc.	Miami, FL	Farm Store	1	228	0
Fas Mart Convenient Stores	Mechanicsville, VA	Fas Mart	1	42	0
Favorite Market	Dalton, GA	Favorite Market	3	N/A	N/A
Fearless Farris Oil Co.	Boise, ID	Handi Mart	3	32	0
FINA Oil & Chemical Co.	Dallas, TX	FINAMART	7	148	0
FKG Oil Co.	Belleville, IL	Moto Mart	6	51	0
Flash Foods, Inc.	Waycross, GA	Flash Foods	2	94	0
Fleming Petroleum, Inc.	Pittsburg, KS	Short Stop	1	4	0
Fleet Oil Co.	Norcross, GA	Fleet	2	7	6
Flying J, Inc.	Brigham City, UT	Flying J, Inc.	8	35	3
Food N Fuel Inc.	Harvard, IL	Food N Fuel	1	3	1
Food Spot Management	Miami, FL	Food Spot	1	N/A	N/A
Foster Oil Co.	Richmond, MI	Sunrise Convenience Store	1	19	0
Four Star Service Stations, Inc.	Grand Rapids, MI	Four Star Service Stations Store	1	10	0
Fresh Way Food Stores	Greenville, NC	Fresh Way Food Store	1	22	0
H.N. Funkhouser & Co.	Winchester, VA	Handy Mart	1	11	0
Garb Co Inc.	Saginaw, MI	7-Eleven Food Store	4	N/A	N/A
Gas America Services, Inc.	Shirley, IN	Gas America	2	40	0
Gasco Gasoline, Inc.	Oxnard, CA	Gasco Mart	2	N/A	—
Gas Mart	Elizabethtown, NC	Minute-Man Food Mart	1	11	0
Gas N Shop Inc.	Lincoln, NE	Gas-N-Shop	2	N/A	N/A
Gate Marketing	Jacksonville, FL	Gate Food Post	9	128	0
Geldbach Petroleum Co., Inc.	Valley Park, MO	Stop Buy	1	2	0
General Oil	Batesvile, AR	Quik Mart	1		
Getty Petroleum Corp.	Plainview, NY	Getty Mart	10	135	174
Giant Industries, Inc.	Phoenix, AZ	Giant Food Store	3	44	0
Golden Gallon, Inc.	Chattanooga, TN	Golden Gallon	2	105	0
Golden Pantry Food Stores	Athens, GA	Golden Pantry Food Stores	2	97	0
Golub Corp.	Schenectady, NY	Mini Chopper	1	5	0
Go-Mart, Inc.	Gassaway, WV	Go-Mart Food Stores	3	64	0
Good Time Stores	El Paso, TX	Good Time Stores	1	41	0
Gresham Petroleum, Inc.	Indianola, MS	Double Quick	2	28	0

1989 Total	1990 Total	1991 Current	1991 Projected	Additions Projected in 1992	Number With Gasoline	Avg. Gasoline Volume Per Store/Per Month		Size (Sq. Ft.)	
						Mini	Full	Mini	Full
N/A	3	1	1	0	1	70,000	—	500	—
38	37	36	36	?	4	—	45,000	—	4,000
N/A	115	115	?	?	109	N/A	N/A	N/A	2,400
36	27	23	0	0	22	—	15,000	—	1,800
N/A	491	479	481	8	79	—	44,000	—	3,000
9	9	9	9	?	9	—	100,000	—	1,800
39	41	41	41	?	41	—	42,500	—	2,400
N/A	N/A	50	N/A	N/A	48	N/A	N/A	N/A	N/A
23	25	24	23	3	23	N/A	50,000	900	2,300
56	58	61	59	0	59	15,250	N/A	500	2,800
580	605	564	548	20	556	108,600	31,500	408	2,500
24	24	26	27	2	26	—	N/A	—	2,000
24	25	24	24	0	24	60,000	100,000	600	2,000
1,075	1,100	1,118	?	?	765	N/A	N/A	N/A	N/A
13	13	13	13	0	13	120,000	—	700	—
4	4	4	4	?	4	16,000	27,500	N/A	N/A
N/A	1,189	1,189	1,170	20	458	—	35,500	—	2,400
N/A	19	20	24	4	20	95,000	75,000	300	2,000
20	19	19	19	?	18	N/A	N/A	N/A	N/A
18	18	18	18	1	17	—	44,000	—	1,800
9	9	9	9	1–2	9	—	80,000	—	1,000/1,500
12	16	29	29	?	29	—	65,000	—	2,200
24	20	20	20	0	2	—	N/A	—	2,000
17	19	19	19	3	19	N/A	N/A	500	1,700
617	680	763	?	?	763	75,207	93,202	796	1,600
N/A	N/A	1	?	?	1	N/A	N/A	N/A	N/A
15	21	22	24	?	22	N/A	N/A	N/A	N/A
N/A	N/A	25	?	?	25	—	N/A	—	N/A
N/A	68	68	69	2	68	—	N/A	—	2,400
17	19	22	24	2	22	N/A	N/A	900	1,800
17	18	16	16	?	15	35,000	60,000	700	2,400
10	8	6	6	—	6	—	63,000/82,000	—	2,400/3,000
N/A	N/A	35	N/A	?	35	N/A	N/A	N/A	N/A
N/A	41	43	43	0	42	—	N/A	—	2,500
1,600	1,668	1,668	?	?	1,668	104,000	145,000	500/1,000	3,375
48	51	53	4–6	4–6	53	N/A	88,000	800	1,500/2,000
N/A	159	159	159	0	159	N/A	N/A	600	3,000
45	45	45	47	3	45	—	80,000	—	2,700
N/A	7	7	7	1	7	50,000	160,000	N/A	1,800
10	10	10	11	?	10	N/A	N/A	N/A	1,400
N/A	30	30	32	2	30	—	40,000	—	2,400
450	689	696	?	?	696	—	N/A	—	1,100
296	290	324	325	20	319	—	N/A	—	2,000
55	55	55	?	?	55	—	50,000	—	2,400
8	5	5	6	2	5	100,000	120,000	1,000	1,200
N/A	17	17	17	0	11	—	N/A	—	2,000
7	18	26	29	?	26	70,000	90,000	850	2,400
N/A	261	228	227	0	78	8,000	25,000	600	2,400
N/A	41	42	46	3	42	—	90,000	—	2,500
N/A	84	86	90	?	83	—	N/A	—	N/A
28	29	32	32	3–5	32	—	N/A	—	1,600/2,200
157	150	148	155	?	148	85,000	120,000	800	2,200
35	50	51	53	2	51	—	120,000	—	2,400
96	98	94	95	5	94	—	50,000	—	2,450
4	4	4	5	0	4	25,000	95,000	800	2,300
16	17	13	13	?	13	—	N/A	—	1,500
35	35	38	39	?	38	—	N/A	—	2,200
4	4	4	0	1	4	—	120,000	—	2,000
N/A	42	40	43	?	5	—	40,000	—	2,400
13	19	19	19	1	19	N/A	N/A	900	2,500
11	10	10	?	?	10	70,000	350,000	1,000	N/A
24	22	22	23	1	21	—	56,000	—	2,400
8	10	11	12	0	11	—	100,000	—	2,400
N/A	N/A	159	?	?	18	—	N/A	—	N/A
N/A	40	40	40	0	40	N/A	N/A	N/A	1,500
10	13	N/A	?	?	11	100,000	150,000	N/A	N/A
N/A	11	11	11	1	11	65,000	57,000	900	1,000+
N/A	36	40	?	?	40	—	50,000	—	N/A
N/A	128	128	128	3	115	N/A	N/A	—	2,000
1	2	2	2	1	2	—	N/A	—	1,800
33	29	31	?	?	?	—	50,000	—	1,400/3,000
454	578	561	575	?	521	37,500	37,500	600	1,800
20	30	44	44	?	44	—	N/A	—	2,500
N/A	105	105	112	?	96	—	100,000	—	N/A
N/A	N/A	97	?	?	97	—	N/A	—	N/A
5	5	5	5	5	5	—	40,000	—	1,000
N/A	60	64	69	5	64	—	170,000	—	2,650
39	41	41	41	0	40	—	N/A	—	2,400
26	28	28	30	2	27	—	33,000	—	1,600

C-Store Summary (Cont.)

Company	H.Q. Location	C-Store Name	No. of States Where Stores Are Located	Company Operated	Franchise Operated
Gull Industries Inc.	Seattle, WA	Express Home Quik Stop	3	20	12
Guttman Oil Co.	Belle Vernon, PA	Crossroad Food Mart	1	27	0
Hallum Oil Co.	Flagstaff, AZ	Hallum Store	11	11	0
Handee Marts Food Stores	Travelers Rest, SC	Handy Mart	1	18	0
Handy Andy Pantries	Chattanooga, TN	Handy Andy Pantry	2	24	0
Happy Food Stores, Inc.	Oklahoma City, OK	Happy Food Store	1	20	0
Harper Oil Co.	Springfield, IL	Harper	1	22	0
Harris Oil Co.	Portland, OR	Shell Food Mart/BP Food Mart	1	—	2
Hawaiian Independent Refinery, Inc.	Honolulu, HI	Gas Express	1	29	0
Hawk Oil Co.	Medford, OR	Tiger Mart	1	2	0
Herdrich Petroleum Corp.	Rushville, IN	Food Mart	1	17	0
Herkimer Petroleum Products	Utica, NY	Nice N Easy Grocery Shoppe	1	23	0
A.W. Herndon Oil Co.	Abbeville, AL	Herndon Oil Co.	2	20	0
Herndon Oil Corp.	Abbeville, AL	Super C/Midi Mart/Shell Food Mart	3	36	0
Highs Dairy Stores	Alexandria, VA	High's Dairy Store	5	192	0
Angus I. Hines, Inc.	Suffolk, VA	Sentry Food Mart	3	32	0
Holiday Oil Co.	West Valley City, UT	Holiday Oil	1	24	0
Holiday Station Stores Inc.	Minneapolis, MN	Holiday Station Store	7	222	20
Holland Oil Co.	Akron, OH	Gas N Shop	1	31	0
Honey's Inc.	Worchester, MA	Honey Farms	N/A	43	—
Horkey Oil Co., Inc.	Lubbock, TX	Friend's Convenience Store	1	21	0
Howdy Doody Inc.	Denton, TX	Howdy Doody, Inc.	1	0	20
Hudson Oil Co.	Tulsa, OK	Hudson	2	11	0
Hughes Energy, Inc.	Daytona Beach, FL	Sugarcreek	1	9	0
Hull Oil Co.	Panama City, FL	JR Food Mart/Hull	1	6	0
Huntley Jiffy Stores	Orange Park, FL	Lil' Champ Food Store	2	480	0
Imperial Oil Co.	Mt. Pleasant, MI	Next Door Food Store	2	36	2
Independent Retailers Assn.	Conroe, TX	Independent Retailers Assn Coop, Inc.	1	38	0
Iowa Oil Co.	Dubuque, IA	IOCO Speede Shoppe	3	30	7
J & L Oil Co.	Vernon Hills, IL	J & L Food Mart	3	29	0
Jaco Oil Co.	Bakersfield, CA	Fastrip Food Store	2	10	25
Jacobus Petroleum Products, Inc.	Milwaukee, WI	Jiffy Stop	1	9	3
JFM, Inc.	Jackson, MS	JR Food Mart	18	110	340
Jiffy Food Stores	Ocala, FL	Jiffy Food Store	1	20	0
Jiffy Marts	Christiansted, VI	Jiffy Mart	3	17	0
Jim Dandy Markets, Inc.	Nashville, TN	Jim Dandy Markets Inc.	1	32	0
Johnny's Quik Food	Fresno, CA	Johnny's Quik Food Store	1	23	0
Johnson Oil Co.	Columbus, IN	Big Foot	2	62	0
R.L. Jordan Oil Co. of No. Carolina, Inc.	Spartanburg, SC	Hot Spot	3	36	0
Junior Food Stores	Crestview, FL	Tom Thumb Food Store	2	104	0
Jr. Food Stores, Inc.	Bowling Green, KY	JR Food Store	2	54	0
Kaibab Industries	Phoenix, AZ	Whiting	1	18	0
Kampgrounds of Amurica, Inc.	Billings, MT	Kampgrounds of America	47	14	636
Kangaroo, Inc.	Gainesville, GA	Kangaroo Convenience Store	1	32	0
L. Keller Oil Properties, Inc.	Effingham, IL	7-Eleven/Super Food Store	1	35	7
Kelley Williamson Co.	Rockford, IL	Mobil Mart	1	21	0
Kenny's Markets	Richfield, MN	Kenny's Market	1	N/A	N/A
Kent Distributors, Inc.	Midland, TX	Kent Kwik	1	17	0
Kenyon Oil Co.	North Grosvenordale, CT	Xtra Mart	7	127	0
Kerr-McGee Refining Corp.	Houston, TX	Kerr-McGee Food Shop	19	51	N/A
Kimber Petroleum Corp.	Madison, NJ	Kwik Pik/Mobil Mart	1	4	0
King & King Enterprises, Inc.	Claycomb, MO	King Super Store	3	30	0
Kocolene Oil Corp.	Seymour, IN	Kocolene Fuel/Food Mart	2	20	0
Krause Gentle Corp.	West Des Moines, IA	Kum & Go	6	140	0
Krist Oil Co.	Iron River, MI	Citgo Quik Food Mart	2	35	0
Kwickie Food Stores, Inc.	Macon, GA	Kwickie Food Store	1	52	0
Kwik King Food Stores	Ocala, FL	Kwik King Food Store	1	54	0
Kwik Sak	Columbia, TN	Kwik Sak	1	33	0
Kwik Shop, Inc.	Hutchinson, KS	Kwik Shop, Inc.	5	188	11
Kwik Trip, Inc.	LaCrosse, WI	Kwik Trip	3	218	0
Kwik Way, Inc.	Billings, MT	Kwik Way	1	0	0
Landhope Farms	Kennett Square, PA	Landhope Farms	3	18	0
Lassus Bros. Oil Inc.	Ft. Wayne, IN	Handy Dandy Food Store	1	20	0
LDD Corp.	Palmyra, NY	Palmart	1	8	0
Ledbetter Oil Co.	Marion, NC	Rainbow Pantries	1	6	9
Carols R. Leffler	Richland, PA	CR's Friendly Market	1	36	4
H.C. Lewis Oil Co.	Welch, WV	Kwik Serv Food Mart	1	5	0
Lindner Dairy Centers	Indianapolis, IN	Friendly Food Store	1	9	0
Lipscomb Oil Co., Inc.	Greenville, MS	Exxon Shoppe	2	16	0
Little Chef Stores	Jacksonville, FL	Little Champ Food Store	2	560	0
Little Food Town	Lakeland, FL	Little Food Town	1	3	0
Loaf N Jug	Pueblo, CO	Loaf N Jug	3	69	0
Lowes Food Stores Inc.	Winston-Salem, NC	Run-In Foods	1	21	0
The Lyden Co.	Youngstown, OH	Fast Check Food Mart	1	55	0
Lykins Oil Co.	Milford, OH	Lykins/Friends	2	6	3
Mapco Petroleum, Inc.	Tulsa, OK	Mapco Express/Delta Express	10	320	110
Marathon Oil Co.	Springfield, OH	Various	N/A	N/A	N/A
Maritime Energy Co.	Rockland, ME	Maritime Farms	1	5	0
Marsh Village Pantries, Inc.	Indianapolis, IN	Village Pantry	1	170	0
Martin & Bayley Inc.	Carmi, IL	Huck's Convenience Store	5	91	5

1989 Total	1990 Total	1991 Current	1991 Projected	Additions Projected in 1992	Number With Gasoline	Avg. Gasoline Volume Per Store/Per Month		Size (Sq. Ft.)	
						Mini	Full	Mini	Full
60	32	32	32	—	—	30,000	100,000	600/1,000	2,000
N/A	27	27	27	4–5	26	—	10,000/30,000	—	1,000+
8	10	11	11	—	—	N/A	N/A	200/600	1,400/3,000
N/A	19	18	?	?	14	N/A	N/A	N/A	N/A
35	35	24	24	5	24	N/A	50,000/75,000	800	2,500
N/A	20	20	22	?	19	—	?	—	2,000
22	22	22	24	2	22	—	106,000	—	1,400
1	2	2	2	0	2	110,000	100,000	500	1,000
N/A	N/A	29	N/A	N/A	29	—	N/A	—	N/A
2	3	2	2	2	2	—	N/A	—	2,000
15	16	17	17	1	16	N/A	N/A	800	2,500
N/A	20	23	25	2	23	60,000	60,000	900	1,300
22	22	20	20	0	20	—	N/A	—	1,500
23	24	36	38	3	37	—	N/A	—	1,800/2,000
220	220	192	?	?	20	—	N/A	—	1,000+
31	31	32	34	2	32	—	65,000	—	1,400
N/A	25	24	25	?	23	—	N/A	—	N/A
225	232	242	248	15	242	—	N/A	—	4,000
25	28	31	34	?	31	—	N/A	—	1,200
N/A	N/A	43	?	?	5	—	N/A	—	N/A
17	20	21	?	5	26	—	100,000	—	3,000
24	21	20	20	0	17	—	N/A	—	1,800
11	11	11	11	?	9	N/A	—	400	—
14	10	9	9	9	9	—	60,000	—	2,000
5	5	6	4	2	6	75,000	50,000	1,000	2,400
N/A	319	480	480	5–6	N/A	N/A	N/A	N/A	N/A
37	38	38	38	?	36	—	125,000	—	2,000
44	38	38	38	?	38	—	N/A	—	2,400
36	36	37	37	0	37	—	58,700	—	1,800/3,000
31	24	29	30–33	?	29	—	100,000	—	2,000
35	35	35	40	0	35	—	100,000	—	3,200
8	12	12	12	2	12	—	85,000	—	1,500
390	420	450	470	?	400	—	N/A	—	2,000/2,400
23	20	20	20	0	20	—	N/A	—	2,400
N/A	15	17	18	2	16	—	36,000	—	2,500
32	32	32	32	0	32	—	50,000	—	2,000
23	23	23	24	?	23	—	76,296	—	2,400
49	49	62	79	5	62	—	75,000	—	1,500
35	35	36	39	6	36	99,000	94,000	400	3,740
105	102	104	102	?	96	—	N/A	—	2,000
54	54	54	52	3	50	—	N/A	—	3,000
18	18	18	18	?	25	N/A	N/A	600	1,500/2,000
643	650	650	656	15	N/A	N/A	N/A	700	1,500
29	31	32	34	2	32	—	58,000	—	2,200
36	43	42	52	9	42	68,000	74,000	860	1,820
N/A	N/A	21	?	2	21	125,000	N/A	900	1,800
N/A	N/A	24	?	?	3	N/A	N/A	N/A	N/A
15	17	17	?	?	17	—	N/A	—	2,000
70	123	127	138	10	127	93,000	52,000	600	1,300
N/A	1,039	1,043	1,046	10	1,043	30,000	77,000	700	1,200
3	3	4	5	?	4	N/A	150,000	750	3,500
30	30	30	?	?	30	—	N/A	—	2,200
17	17	20	22	3	20	—	N/A	—	2,300
137	138	140	146	6–8	139	N/A	N/A	800/900	1,800
28	33	35	36	2	35	—	65,000	—	2,200
53	52	52	53	3–4	52	—	5,000	—	2,300
54	55	54	54	0	53	—	N/A	—	2,500
30	33	33	33	?	32	—	N/A	—	2,500
210	209	209	210	1	188	—	45,000	—	3,000
192	199	219	235	15	218	—	N/A	—	2,500
21	21	21	22	?	21	—	35,000	—	2,400
20	18	20	18	?	14	—	N/A	—	2,500
18	20	20	20	0	20	—	88,000	—	1,800
9	9	8	11	3	8	—	75,000	—	2,000
15	15	15	15	?	15	—	40,000	—	1,200
N/A	N/A	40	50	10	40	—	N/A	—	2,800
4	4	5	6	1	5	75,000	100,000	900	2,000
9	9	9	9	1	5	—	50,000	—	2,400
16	16	16	?		16	N/A	N/A	N/A	2,000
560	560	560	570	?	480	—	50,000	—	2,400
6	6	3	3	0	3	N/A	N/A	1,000	2,500
68	68	69	70	1	68	—	10,000/12,000	—	3,200
27	24	21	21	2	21	N/A	N/A	N/A	N/A
54	55	55	57	2	55	90,000	60,000	800	1,500
7	7	9	10	1	9	—	85,000	—	2,000
310	316	320	322	3	320	92,000	90,000	650	2,000
N/A	N/A	408	413	?	408	N/A	N/A	800	1,000+
N/A	5	5	5	0	5	40,000	75,000	800	2,400
168	168	170	175	?	111	—	N/A	—	2,690
95	105	96	100	6	86	—	48,000	—	2,500

C-Store Summary (Cont.)

Company	H.Q. Location	C-Store Name	No. of States Where Stores Are Located	Company Operated	Franchise Operated
Martin Oil Co.	Bellwood, PA	Minit Mart	1	18	0
Martin Oil Marketing, Ltd.	Alsip, IL	Martin Mini Food Mart	2	43	0
Maverick Markets, Inc.	Corpus Christi, TX	Maverick Market	1	110	0
Maveric Mini Marts	Cushing, OK	Maveric Mini Marts	1	23	0
Maverik Country Stores, Inc.	Afton, WY	Maverik Country Stores, Inc.	8	112	0
May-Slade Oil Co.	Klamath Falls, OR	Food Mart	1	4	3
McDowell Oil Service, Inc.	Milton, PA	Time Markets, Inc.	1	28	0
McGuire Oil Co.	Mobile, AL	McGuire Food Marts, Inc./ Com Pac Food Store	1	18	0
McLeieer Oil Service, Inc.	Kalamazoo, MI	Food Port Marketing	1	3	0
Mercer's Kwik Stop Food Stores	Boonville, NY	Bonfare	2	49	11
Merritt Truax, Inc.	Salem, OR	Texaco	1	5	0
Metzger Dairies, Inc.	Dallas, TX	Mr. M Food Store	1	47	0
Mickey's Enterprises, Inc.	Killeen, TX	Mickey's Convenience Store	1	16	0
Mid-Continent Systems, Inc.	West Memphis, AR	Convenience Market	2	0	26
Mid-Missouri Oil Co.	Kaiser, MO	Jiffy Stop	1	0	6
Mid South Sales, Inc.	Helena, AR	Citgo Food Mart	1	14	0
Midstate Oil Co.	Columbia, MO	Breaktime	1	64	0
Mid-States Petroleum	Troy, MI	Mid-Mart	3	39	0
Mid-West Petroleum Inc.	Derby, KS	Stop 2 Shop	3	10	35
Midwest Industrial Foods	LaCrosse, WI	Quik-Stop	2	0	30
Midwest Petroleum Co.	St. Louis, MO	Bulch Oil Co./Express Lane	2	56	0
Miller & Holmes, Inc.	St. Paul, MN	MH	6	N/A	N/A
Miller Enterprises Inc.	Crescent City, FL	Handy Way Food Store	1	128	0
Miller Oil Co.	Norfolk, VA	Miller Mart	2	N/A	N/A
Mini Mart Inc.	Casper, WY	Mini Mart, Inc.	6	106	0
Mini Marts	Bellwood, PA	Mini Marts	1	30	0
Minit Mart Foods, Inc.	Bowling Green, KY	Minit Mart	2	96	0
Minit Mart, L.P.	Vancouver, WA	Quick Shop Minit Mart Food Store	2	2	48
Minit Stop, Inc.	Bay Minette, AL	Minit Stop, Inc.	1	10	0
Mobil Oil Corp.	Fairfax, VA	Mobil Mart	19	551	616
Modern Oil Co., Inc.	Shawnee, OK	Kwick Stop Food Mart	1	26	0
Mooney Oil Corp.	Lansing, MI	Superstop	1	19	0
Moore Petroleum	Banta, CA	Exxon Food Mart	1	0	3
Mountain Empire Oil Co.	Johnson City, TN	Roadrunner Market	3	32	0
Moyle Petroleum Co.	Rapid City, SD	Common Cents Food Store	1	30	0
Mr. Zip Convenience Stores, Inc.	Cleveland, TN	Mr. Zip/Classic Group	3	50	0
Munro Petroleum & Terminal Corp.	Biloxi, MS	MP Stores	1	11	0
Murphy Oil USA, Inc.	El Dorado, AR	SPUR	12	0	156
Musket Corp.	Oklahoma City, OK	Love's Country Store/Love's Travel Stop	6	127	0
National Convenience Stores, Inc.	Houston, TX	Stop N Go	3	962	0
National Oil & Gas, Inc.	Bluffton, IN	Deli Mart	2	40	0
Neal, Inc.	San Antonio, TX	One Stop Food Store	1	24	0
Nella Oil Co.	Auburn, CA	1-Stop Convenience Food Store	2	24	0
Nelson's Oil & Gas, Inc.	Edgemont, SD	Nelson's Kountry Korner	3	3	2
Nice N Easy Grocery Shoppes, Inc.	Canastota, NY	Nice N Easy Shoppe	1	18	67
Northville Industries Corp.	Melville, NY	Snaxville	1	6	0
Nugget Oil, Inc.	Crestview, FL	Nugget Oil Inc.	1	46	0
Omega Oil Co.	Dayton, OH	Omega Mart	2	58	0
Open Pantry Food Marts	Racine, WI	Your Open Pantry	2	22	37
Orloski's Service Stations, Inc.	Wilkes-Barre, OA	Orloski's Quik Mart	1	0	0
Otto Energy, Inc.	Shreveport, LA	Otto's Food Store	1	7	0
Pacific Northern Oil Co.	Seattle, WA	Panoco	1	2	0
Pacific Petroleum Corp.	Eugene, OR	Tiger Mart	1	1	—
Pack & Sack Food Centers, Inc.	Cairo, GA	Pack & Sack Food	2	0	0
The Pantry Inc.	Sanford, NC	The Pantry	4	N/A	N/A
The Pantry Store Inc.	Clarksburg, WV	The Pantry Store Inc.	2	28	0
Parker Oil Co., Inc.	South Hill, VA	Petrol/Red Barn	2	2	28
Parman Oil Co.	Nashville, TN	Par Mart	1	19	0
Patterson Oil Co., Inc.	Torrington, CT	Patco Handy Stop	1	9	0
Pay Less Oil Co.	Tampa, FL	Pay Less/Ready	1	21	0
Pay N Save Inc.	Littlefield, TX	Jolly Roger	2	14	0
PDQ Food Stores, Inc.	Middleton, WI	PDQ Food Store, Inc.	4	87	0
Petroleum Marketers, Inc.	Roanoke, VA	Stop In Food Store	2	50	0
Petroleum Marketing Co.	Tulsa, OK	7-Eleven	6	0	20
Petroleum Sales & Service	Buffalo, NY	Petro USA	1	4	0
Petroleum World, Inc.	Spartansburg, SC	Express Store	2	34	0
Phillips 66 Co.	Bartlesville, OK	Phillips 66	N/A	N/A	N/A
Piasa Motor Fuels, Inc.	Alton, IL	Piasa Pantry	2	4	4
Pick Kwik Food Stores, Inc.	Tampa, FL	Pick Kwik	1	92	0
Pilot Corp.	Knoxville, TN	Pilot Foodmart/Pilot Travel Center	27	88	0
Pipeline Oil Sales	Jackson, MI	Buddy's Mini-Marts, Inc.	1	25	1
Plaid Pantries, Inc.	Beaverton, OR	Plaid Pantries Inc.	2	105	0
Poole Oil Co.	Ontario, OR	Poole's Country Store	2	2	0
Presta Oil Inc.	Garden City, KS	Dart In/Presto	1	17	2
Presto Food Stores, Inc.	Plant City, FL	Presto Food Stores	1	63	0
Private Brand Services, Inc.	Cadillac, MI	P.B.S. Party Store	1	1	0
Purity Oil Co.	Tulsa, OK	Fastop Stores	1	13	0
Q-Mart Food Stores of America	Jackson, TN	Q-Mart	1	7	12
Q-Midwest	Mound, MN	Total Mart	1	6	0

1989 Total	1990 Total	1991 Current	1991 Projected	Additions Projected in 1992	Number With Gasoline	Avg. Gasoline Volume Per Store/Per Month		Size (Sq. Ft.)	
						Mini	Full	Mini	Full
N/A	N/A	18	18	7	18	—	N/A	—	N/A
41	43	43	43	5–8	43	130,000	160,000	400	2,400/3,200
111	110	110	120	?	95	—	75,000	—	2,400
26	24	23	23	?	22	—	45,000	—	1,400
98	109	112	115	?	111	—	65,000	—	2,000
6	6	7	—	1	7	40,000	105,000	900	1,100/1,500
30	28	28	28	0	28	—	70,000	—	2,100
22	22	18	18	?	18	—	50,000	—	1,500
2	3	3	3	?	3	—	75,000/80,000	—	3,000/4,000
56	58	60	60	0	48	—	40,000	—	3,000
6	5	5	6	0	5	—	125,000	—	N/A
48	48	47	48	?	38	—	N/A	—	2,300
21	21	16	17	?	16	—	N/A	—	2,300
32	N/A	26	26	0	22	—	20,000	—	2,000
8	6	6	6	?	6	—	60,000	—	1,000+
10	14	14	15	2	14	—	N/A	—	2,200
63	63	64	66	?	64	50,000	50,000	800	1,400
39	39	39	39	3–5	37	120,000	120,000	800	2,600
40	45	45	50	5	45	—	50,000	—	2,400
0	30	30	33	2–3	30	—	50,000	—	1,800
53	57	56	57	?	56	60,000	60,000	1,000	1,500
N/A	N/A	24	N/A	N/A	24	N/A	N/A	N/A	N/A
129	125	128	130	5	112	—	50,000	—	2,400
21	35	41	?	?	41	N/A	N/A	N/A	N/A
117	117	106	108	2	118	—	45,000	—	2,400
N/A	30	30	30	0	30	40,000	50,000	1,000	2,000
98	97	98	99	2–3	96	—	44,000	—	3,000
52	51	50	50	0	17	—	50,000	—	2,800
10	10	10	?	?	10	—	100,000	—	2,400
800	N/A	1,167	1,207	?	1,167	N/A	N/A	960	1,000
N/A	N/A	26	26	?	26	—	N/A	—	1,000+
18	19	19	2	2	19	—	90,000	—	2,300
3	3	3	5	1	3	80,000	160,000	200	2,400
35	35	32	41	?	32	60,000	60,000	200	2,000
30	30	30	?	?	30	—	N/A	—	2,500
50	50	50	52	?	50	—	N/A	—	1,000+
9	10	11	2	1	11	—	60,000	—	1,200/1,400
119	156	156	?	?	156	—	N/A	—	1,200
119	123	127	131	7	127	—	100,000	—	3,500
1,099	1,091	989	989	0	809	N/A	N/A	800	2,700
28	28	40	46	6	40	50,000	50,000	1,000	2,000
25	25	24	25	2	24	—	42,500	—	1,750
27	24	24	25	3	24	185,000	185,000	800	1,800
7	7	7	8	?	7	—	50,000	—	2,800
N/A	N/A	85	85	?	85	N/A	N/A	N/A	N/A
0	0	6	6	2–3	6	—	60,000	—	1,800
44	44	46	47	0	46	—	40,000/125,000	—	1,600/2,400
57	57	58	59	2	58	N/A	N/A	600	1,200
61	60	59	59	2	31	—	70,000	—	2,400
32	34	34	35	?	33	80,000	80,000	700	1,400
4	6	6	7	?	7	—	N/A	—	1,000
2	2	2	2	1–5	2	—	125,000	—	2,800
—	—	4	1	2	1	—	290,000	—	1,600
45	48	46	46	2	46	—	15,000	—	2,400
N/A	N/A	448	450	0	427	—	N/A	—	2,400
N/A	27	28	30	2	27	—	50,000	—	1,500
30	28	30	?	?	30	—	50,000	—	1,800
18	20	19	?	?	19	—	150,000	—	2,500
7	9	9	10	1	9	57,000	70,000	800	1,600
21	22	21	?	?	21	—	N/A	—	1,000+
N/A	N/A	14	N/A	N/A	14	N/A	N/A	N/A	N/A
105	99	87	88–90	?	67	N/A	N/A	N/A	N/A
54	50	50	55	10	50	78,000	110,000	1,000	1,800
111	96	97	96	0	97	N/A	N/A	N/A	N/A
3	4	4	6–7	?	4	80,000	—	600/700	—
N/A	27	34	34	?	34	N/A	N/A	N/A	N/A
159	190	213	?	?	213	N/A	N/A	N/A	N/A
4	6	8	9	1	8	—	60,000	—	2,200
94	92	89	87	4	67	—	48,000	—	2,200
81	85	88	4–5	?	88	—	N/A	—	1,500/6,000
25	28	30	33	?	30	51,000	63,000	750	1,400
124	110	105	105	?	14	—	75,000	—	2,400
4	5	5	—	—	5	—	50,000	—	1,800/2,500
15	21	19	21	2	19	59,000	47,000	225	2,400
58	62	63	?	?	62	30,000	30,000	N/A	2,400
1	1	1	1	0	1	—	140,000	—	3,000
10	13	13	13	?	N/A	80,000	N/A	800	N/A
N/A	19	19	20	N/A	19	—	40,000	—	2,400
3	6	6	8	2	6	—	80,000	—	2,400

C-Store Summary (Cont.)

Company	H.Q. Location	C-Store Name	No. of States Where Stores Are Located	Company Operated	Franchise Operated
Quality Oil Co. Inc., Ltd. Partnership	Winston-Salem, NC	Quality Mart	2	28	0
Quarles Petroleum, Inc.	Fredericksburg, VA	Q-Stop Food Store	1	15	0
Quality Petroleum Corp.	Lakeland, FL	Hop-N-Save	2	30	20
Quick Chek Food Stores Inc.	White House Station, NJ	Quick Chek	1	95	0
Quick 'N Easy Stores, Inc.	Austell, GA	Quick 'N Easy Store	1	18	0
Quick-Sav, Inc.	Flushing, MI	Quick-Sav, Inc.	1	29	0
Quick Stop Food Mart, Inc.	Fayetteville, NC	Quick Stop Food Mart	2	80	0
Quik Mart Stores	Billings, MT	Quik Mart	1	4	0
Quik Mart Stores, Inc.	Tucson, AZ	Quik Mart Store	1	24	0
Quik Thrift Food Stores, Inc.	Marietta, GA	Quik Thrift	1	14	0
QuikTrip Corporation	Tulsa, OK	QuikTrip	6	284	0
Qwik Korner Deli-Grocery, Inc.	San Marcos, CA	Qwik Korner Deli Grocery	1	7	0
Qwik Stop	Coeur D'Alene, ID	Qwik Stop	1	3	0
Racetrac Petroleum, Inc.	Atlanta, GA	Racetrac Raceway	12	175	139
Rainbo Oil Co.	Salt Lake City, UT	Rainbo Mart	1	38	0
Ram Oil Corp.	San Antonio, TX	Ram Store	1	13	0
Red Hed Oil Co., Inc.	Richmond, KY	Redi Mart	1	8	0
Red Rock Distributing	Oklahoma City, OK	Save-A-Stop/Fuel-at-the-Flag	1	19	0
Republic Oil Corp.	Woodland Hills, CA	Dixxie Mart	N/A	N/A	N/A
Retail Marketing Co.	Tulsa, OK	7-Eleven	6	77	20
Rinehart Oil Inc.	Ukiah, CA	R-Mart/RINO	1	6	0
River Oil Co.	Memphis, TN	Phillips 66 C-Store	1	3	0
F.L. Roberts	Springfield, MA	Roberts Food Mart	2	24	0
Robinson Oil Co., Inc.	San Jose, CA	Mrs. Robbie's Foodstore/ Mrs. Robbie's Snackspot	1	8	0
Rocky Top Markets, Inc.	Harriman, TN	Rocky Top Market	1	N/A	N/A
Royster Oil Co., Inc.	Shelby, NC	RoCo Food Store	1	1	0
Russ Day-N-Nite Markets, Inc.	Albany, OR	Russ' Day-N-Nite	1	14	0
Russel Petroleum Corp.	Montgomery, AL	Kwik Shop Food Store	1	17	0
Sac N Pac Stores	San Marcos, TX	Sac N Pac	1	20	N/A
Sahara Oil Co., Inc.	Phoenix, AZ	Rebel Quik Mart	1	8	0
Santee Oil Co., Inc.	Kingstree, SC	Carolina Shell/Georgetown Shell Pawley Island Shell/Hemingway Shell	1	4	0
Satco	Newport, ME	Satco	1	18	3
Sav A Step Food Marts, Inc.	Louisville, KY	Sav-A-Step Food Mart	2	22	4
Save-A-Stop, Inc.	Oklahoma City, OK	Save-A-Stop	1	19	0
Sav-A-Trip, Inc.	Cherokee, OK	Sav-A-Trip, Inc.	2	19	0
Save-X, U.S.A., Inc.	Roanoke, VA	Save-X Mini Mart	1	10	0
Savings Station Dodges Store	Tupelo, MS	Dodges Stores	10	10	—
SBR, Inc.	Parkersburg, WV	7-Eleven	2	63	0
Scaff's Inc. dba S & S Foods	Lakeland, FL	S&S Food Stores	1	35	0
SCASCO	Winsted, CT	Nutmeg Pantry	1	0	10
Schaeffer Oil Inc.	Winner, SD	"Lil Feller"	2	6	0
Schierl Sales Corp.	Stevens Point, WI	The Store	2	23	0
Schmuckal Oil Co.	Traverse City, MI	Shell Mini-Mart	1	18	0
Carl M. Schultz Inc.	LaPeer, MI	CMS Mini Marts	1	N/A	N/A
Sears Oil Co., Inc.	Rome, NY	Seaco Express Shop	1	9	1
Sessoms Properties, Inc.	St. Pauls, NC	Kwik Shop/Petro Mart	1	12	0
7 2 11 Food Stores	Farmington, NM	7 2 11 Food Store	3	N/A	N/A
Shay Oil Co., Inc.	Yuma, AZ	Shay's Mart	1	11	0
Sheetz, Inc.	Altoona, PA	Sheetz Inc.	4	160	0
Sheffield Oil Co.	Dothan, AL	Sheffield Oil Co.	3	22	0
Shell Oil Co.	Houston, TX	Shell Food Mart	22	0	N/A
Shipley Oil Co.	York, PA	N/A	1	N/A	N/A
Shirtcliff Oil Co.	Myrtle Creek, OR	Food Mart/Deli Mart	1	2	0
Shop A Snak Food Marts, Inc.	Birmingham, AL	Shop-A-Snack Food Mart	1	24	0
Shop Rite, Inc.	Crowley, LA	Shop Rite	1	42	0
Short Stop Food Marts	Fayetteville, NC	Short Stop/Easy Stop 66/Food Mart	1	66	0
SICO	Mount Joy, PA	SICO Serve	3	8	0
Silcorp Ltd.	Mississauga, Ont. Can	Mac's/Hop In/Mike's Mart	1	N/A	N/A
Sinclair Oil Corp.	Salt Lake City, UT	Sinclair Service Sations	14	220	80
Sing Oil Co.	Thomasville, GA	Sing Food Stores	5	56	0
Site Oil Co.	St. Louis, MO	Site Food Mart	8	50	0
6-Twelve Convenience Mart Inc.	Gaithersburg, MD	6-Twelve Convenience Mart	2	7	20
Skinny's, Inc.	Abilene, TX	Skinny's	1	49	0
R.L. Smeltz Oil Co., Inc.	Greensburg, PA	R.L. Smeltz Oil Co.	1	10	0
Southern Counties Oil Co.	Orange, CA	Southern Counties Oil Co.	1	5	0
Southern Food Park, Inc.	Sparta, IL	Han-Dee Mart	1	16	0
Southern Oil Co., Inc.	Suffolk, VA	Southern Food Stores	1	6	0
The Southland Corp.	Dallas, TX	7-Eleven/High's Quick Mart	30	1,704	4,239
Spectrum Stores	West Point, GA	Spectrum Store	2	0	0
The Spencer Co., Inc.	Huntsville, AL	Minit Man	1	14	24
Spies Corp.	Watertown, SD	Cowboy Convenience Store	1	1	0
Stallings Oil Co.	Rocky Mount, NC	Zipmart	2	41	0
Star Development Holding	Melburne, FL	Town Star Foods	1	30	0
Star Enterprise	Houston, TX	Texaco Food Mart	26	658	4,739
Star Oil Co.	Port Huron, MI	Plums	1	4	0
Sterling Milk Co.	Wauseon, OH	Sterling Food Store	2	28	0
Steuart Petroleum Co.	Washington, DC	Agip/Happy Store	6	60	3
Stewart Oil Co./Tri-Star Marketing	Urbana, IL	Super Gas/Super Pantry Store	2	39	0

1989 Total	1990 Total	1991 Current	1991 Projected	Additions Projected in 1992	Number With Gasoline	Avg. Gasoline Volume Per Store/Per Month		Size (Sq. Ft.)	
						Mini	Full	Mini	Full
27	26	28	29	1	28	100,000	100,000	200	2,200
43	47	50	50	?	50	—	68,000	—	1,600
11	14	15	17	2	15	—	50,000	—	2,400
92	95	95	98	?	0	—	N/A	—	3,100
22	18	18	18	0	18	—	50,000	—	3,000
27	29	29	30	?	29	—	63,000	—	1,800
83	80	80	82	3	80	—	50,000	—	2,400
6	6	4	4	?	4	N/A	N/A	N/A	N/A
25	25	24	25	?	22	—	N/A	—	2,400
12	14	14	14	0	8	—	95,000	—	1,500
255	268	284	314	30	277	—	N/A	—	3,200
24	23	7	7	0	2	—	61,000	—	1,200
0	0	3	8	5	3	—	N/A	—	3,000
268	314	259	340	20-35	314	N/A	N/A	800	3,500
37	39	37	?	?	38	—	N/A	—	1,800
9	11	13	15	?	13	—	N/A	—	N/A
6	6	8	8	1	8	55,000	70,000	600	2,50
22	22	19	19	0	19	50,000	50,000	600	2,500
4	4	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A
111	100	97	97	0	96	—	51,000	—	2,400
6	6	6	6	—	—	34,000	100,000+	300	1,200
3	3	3	3	0	3	—	90,000	—	2,000
N/A	24	24	24	0	24	70,000	100,000	800	1,400
7	8	8	9	?	8	N/A	N/A	600	1,350
N/A	24	25	?	?	25	N/A	N/A	N/A	N/A
1	1	1	1	1	1	—	130,000	—	2,500
22	20	14	11	0	1	—	N/A	—	2,000
17	19	17	19	2–3	17	N/A	N/A	900	2,400
N/A	N/A	20	N/A	N/A	20	N/A	N/A	N/A	N/A
6	7	8	11	2	9	—	100,000	—	3,200
4	4	4	4	?	4	—	222,000	—	2,000
N/A	27	21	21	0	21	—	55,000	—	1,200
N/A	24	26	27	5	24	—	N/A	—	3,000
23	21	19	19	0	19	N/A	N/A	1,000	2,000
18	19	19	19	1	19	—	50,000	—	1,800
9	10	10	11	1	10	N/A	N/A	1,000	2,200
N/A	N/A	60	N/A	N/A	60	—	N/A	—	N/A
63	63	63	65	?	51	—	N/A	—	2,500
37	37	35	36	1	35	—	80,000	—	2,700
8	10	10	11	1	10	—	75,000	—	1,800
6	6	6	?	?	6	—	N/A	—	2,500
21	22	23	23	0	23	—	60,000	—	2,300
16	16	18	19	2	18	—	95,000	—	2,400
N/A	N/A	24	N/A	N/A	24	—	N/A	—	N/A
3	10	10	N/A	N/A	10	N/A	N/A	250	2,500
17	14	12	13	0	11	—	N/A	—	N/A
N/A	N/A	30	N/A	N/A	N/A	N/A	N/A	N/A	N/A
11	11	11	12	1	11	100,000	125,000	800	2,500
146	152	160	170	12	158	—	80,000	—	2,700
20	22	24	26	?	24	40,000	—	800	—
1,164	1,300	1,300	?	?	1,300	N/A	N/A	800	1,000/2,600
N/A	N/A	20–25	N/A	N/A	20–25	N/A	N/A	N/A	N/A
2	2	2	3	—	2	—	100,000	—	2,400
N/A	21	22	22	?	22	—	50,000	—	2,400
38	41	42	44	?	42	—	N/A	—	2,400
N/A	66	62	66	?	58	—	N/A	—	N/A
7	8	8	8	2	8	104,000	199,000	650	1,200
1,130	999	999	?	?	197	—	N/A	—	2,400
N/A	N/A	300	N/A	N/A	N/A	N/A	N/A	N/A	N/A
54	54	56	56	?	56	N/A	N/A	—	3,000
N/A	50	50	?	?	50	N/A	N/A	—	2,500
N/A	23	27	32	?	8	—	80,000	—	3,000
50	52	49	47	2	49	—	29,000	—	2,400
4	4	10	12	2	10	100,000	175,000	1,000	2,400
3	4	5	7	0	4	150,000	—	650	—
16	16	16	16	1–2	16	—	50,000	—	2,500
5	5	6	6	1	6	—	80,000	—	1,800
7,097	6,190	5,943	?	0	2,534	—	46,000	—	2,800
40	42	42	42	0	42	—	70,000	—	2,400
N/A	30	33	38	0	38	—	55,000	—	N/A
1	1	1	1	0	1	—	60,000	—	5,000
45	43	41	44	?	42	N/A	125,000	1,000	1,500
N/A	31	30	?	?	?	—	N/A	—	N/A
N/A	5,397	5,397	5,350	244	5,311	85,000	102,000	700	1,500
N/A	N/A	4	?	1	4	—	200,000	—	1,500
N/A	28	28	28	?	11	—	N/A	—	2,400
21	59	63	65	16	63	145,000	168,000	600	1,800
N/A	20	39	24	3	39	N/A	N/A	700	1,800

C-Store Summary (Cont.)

Company	H.Q. Location	C-Store Name	No. of States Where Stores Are Located	Company Operated	Franchise Operated
Stewarts Ice Cream Co.	**Saratoga Springs, NY**	**Stewarts Ice Cream**	**2**	**181**	**0**
Stop In Food Stores, Inc.	**Roanoke, VA**	**Stop-In Food Stores**	**2**	**51**	**0**
Stop-N-Go of Madison, Inc.	**Madison, WI**	**Stop-N-Go**	**2**	**47**	**0**
The Store 24, Inc.	**Waltham, MA**	**The Store 24, Inc.**	**5**	**109**	**0**
J.D. Streett & Co., Inc.	Maryland Heights, MO	FINA/Citgo/Sunoco	4	14	0
Strassburger Enterprises	Temple, TX	Pay Less/Quix	1	29	0
Sugar Creek Stores, Inc.	Rochester, NY	Sugar Creek Store	1	98	5
Sunglo, Inc.	San Antonio, TX	Sunglo, Inc.	1	24	0
Sun Refining and Marketing Co.	**Philadelphia, PA**	**Atlantic "A" Plus Markets/ Sunoco Food Markets**	**27**	**N/A**	**N/A**
Sunny Side Farms Stores	**Moosup, CT**	**Sunny Side Farms Store**	**1**	**10**	**0**
Sunshine Jr. Stores, Inc.	**Panama City, FL**	**Jr. Food Stores**	**5**	**296**	**0**
Suwannee Swifty Stores, Inc.	Quitman, GA	Beacon/Ultramart/Suwannee Swifty	3	212	0
Sweeney Co., Inc.	Chicago, IL	Sweeney Foods Works	1	6	0
T & E Oil Co.	Hutchinson, KS	Food Plaza and Mini Mart	1	9	0
Target Captial Div.	Seattle, WA	Express Lane	2	0	20
Tattnal Foods, Inc.	**Glennville, GA**	**Wollard's Blanch**	**1**	**26**	**0**
Taylor Food Marts	**Amarillo, TX**	**Taylor Food Mart**	**5**	**112**	**0**
Taylor Oil Co.	**Winston-Salem, NC**	**Etna Food Store**	**2**	**60**	**0**
Tedeschi's Food Stores	**Rockland, MA**	**Tedeschi's Food Store**	**2**	**67**	**0**
Tesoro Petroleum Corp.	Anchorage, AK	North Stores 7-Eleven	1	39	0
Texaco Refining & Marketing Inc.	Houston, TX	Texaco/Star Mart/Food Mart	14	471	0
TFM Co.	Dubuque, IA	Oky Doky	3	1	18
Thomas Oil Co.	Bryant, AR	Tommys-A-Tanks/Kountry Junction/ Miliary 66/2 Chief Truck Stop	1	5	0
Thornhill Oil Co., Inc.	**Ft. Wayne, IN**	**Amoco Food Shop**	**1**	**15**	**1**
Thornton Oil Corp.	**Louisville, KY**	**Thornton's Gas and Food Mart**	**6**	**102**	**4**
Thrifty Oil Co.	**Downey, CA**	**Thrifty Food & Gas**	**1**	**151**	**0**
Thriftway Marketing Corp.	Farmington, NM	Thrifyway Marketing	4	71	0
Time Oil Co.	Seattle, WA	Jackpot Food Mart	5	111	58
Time Saver Stores, Inc.	New Orleans, LA	Time Saver Stores, Inc.	1	133	0
TOC Retail Inc.	Casselberry, FL	Majik Market	11	389	0
Tom Thumb Food Markets, Inc.	**Crestview, FL**	**Tom Thumb**	**2**	**104**	**0**
Tooley Oil Co.	**Sacramento, CA**	**Shell Food Mart/Tooley's Mart**	**1**	**6**	**0**
Total Petroleum, Inc.	**Denver, CO**	**Total Mart/V Mart/Road Runner**	**18**	**614**	**13**
Total Road Runner, Inc.	**Texarkana, TX**	**Road Runner**	**5**	**130**	**0**
Town & Country Food Marts	Wichita, KS	Town and Country Markets	4	66	0
Town & Country Food Stores	Melbourne, FL	Town Star Food Store	1	30	0
Town Pump	Butte, MT	Town Pump Food Store	1	38	23
Town Star Food Stores, Inc.	Melbourne, FL	Town Star Food Store	1	31	0
Travelers Petroleum, Inc.	**Anderson, SC**	**Self Way**	**1**	**N/A**	**0**
Trejo Oil Co.	**Casa Grande, AZ**	**Tiger Mart/Short Stop**	**1**	**25**	**0**
Tri-Valley Distributors Inc.	**Heber City, UT**	**Tri-Mart**	**6**	**40**	**0**
Triton, Inc.	**Atlanta, GA**	**Happy Store**	**3**	**21**	**0**
Twin Lakes Petroleum Corp.	Athens, TX	Twin Stop	1	7	0
Ultramar, Inc.	Hanford, CA	Ultramart	2	178	24
Ultra Power Corp.	Monticello, NY	Ultra Mart	1	4	0
Uni-Marts, Inc.	State College, PA	Uni-Marts, Inc.	5	315	25
United Dairy Farmers	**Cincinnati, OH**	**United Dairy Farmers**	**3**	**214**	**0**
United Refining Co. of PA	**Warren, PA**	**Kwik Fill/Red Apple Food Mart**	**3**	**193**	**0**
UNOCAL Refining & Marketing Div.	**Los Angeles, CA**	**Self Serve Mart**	**13**	**N/A**	**N/A**
U.S.A. Petroleum	**Santa Monica, CA**	**USA Mini Mart**	**5**	**29**	**0**
Venta, inc.	Denver, CO	Convenience Plus	4	44	0
Verona Oil Co., Inc.	Roscoe, NY	The Country Store	1	24	0
Vista Marketing Group., Ltd.	Rockford, IL	Vista	2	0	6
Waco Oil Co.	Louisville, KY	Waco Food Mart	2	13	0
Wades Foods, Inc.	**Christiansburg, VA**	**Deli Mart & Food Time**	**1**	**21**	**0**
Wake Up Oil Co., Inc.	**Indianapolis, IN**	**Mini Snack Shop**	**1**	**5**	**0**
Walters Dimmick Petroleum	**Marshall, MI**	**Speed-D Mart**	**3**	**37**	**0**
Warelubco, Inc.	**Jacksonville, IL**	**Wareco Country Store**	**5**	**67**	**0**
Warren Equities, Inc.	New York, NY	Xtra Mart	7	127	0
Warring Oil Co.	Jackson, MS	Interstate Food Stop	2	27	0
Wawa Inc.	Wawa, PA	Wawa Food Market	5	485	0
Webster Oil Co.	Springfield, MO	E.J.'s	1	4	0
Weigels Farm Stores	**Powell, TN**	**Weigel's Farm Store**	**1**	**38**	**0**
Welsh Oil Co.	**Merrillville, IN**	**All different**	**2**	**21**	**0**
West Lynn Creamery	**Lynn, MA**	**Richdale Dairy Stores, Inc.**	**2**	**25**	**25**
West Star Corp.	**Olympia, WA**	**Northwest Deli Mart**	**1**	**9**	**0**
West Texas Gas Inc.	Midland, TX	Friend's/Various	1	12	5
Western Energetics Corp.	Reno, NV	Exxon Winner's Corner	1	20	0
Western Marketing, Inc.	Abilene, TX	Wes-T-Go, Inc.	2	15	0
Westgate Oil Co.	Muskegon, MI	Wesco	1	30	0
Westland Enterprises	**Atkinson, NE**	**Mr. G's**	**2**	**N/A**	**N/A**
A.T. Williams Oil Co.	**Winston-Salem, NC**	**Wilco Food Mart**	**2**	**100**	**0**
J.H. Williams Oil Co., Inc.	**Tampa, FL**	**76 Mini-Mart**	**1**	**85**	**—**
Williamson Oil Co.	**Fort Payne, AL**	**Discount Food Mart**	**3**	**85**	**0**
The Willis Group, Inc.	La Plata, MD	Dash-In Food Store	3	44	0
Wind River Petroleum	Salt Lake City, UT	Top Store Circle C	1	25	0
Wooten Oil Co.	Goldsboro, NC	Kwik Mart	1	20	0
Younger Oil Co.	Albany, OR	Time Out	1	2	0

1989 Total	1990 Total	1991 Current	1991 Projected	Additions Projected in 1992	Number With Gasoline	Avg. Gasoline Volume Per Store/Per Month		Size (Sq. Ft.)	
						Mini	Full	Mini	Full
N/A	**176**	**181**	**184**	**8**	**159**	**—**	**43,000**	**—**	**2,500**
51	**50**	**51**	**52**	**?**	**51**	**—**	**125,000**	**—**	**N/A**
54	**58**	**47**	**47**	**3**	**35**	**—**	**60,000**	**—**	**2,400**
N/A	**108**	**109**	**?**	**?**	**1**	**—**	**N/A**	**—**	**N/A**
13	13	14	?	?	14	N/A	N/A	500	1,500
94	94	29	31	?	27	—	100,000	—	2,000
100	103	103	110	10	98	N/A	60,000	700	1,800
25	24	24	24	?	24	—	300,000	—	1,000
620	**510**	**786**	**?**	**?**	**—**	**—**	**N/A**	**—**	**N/A**
N/A	**10**	**10**	**10**	**1–2**	**6**	**30,000**	**60,000**	**800**	**1,200**
315	**297**	**296**	**300**	**10**	**291**	**—**	**30,000**	**—**	**2,400**
N/A	191	212	220	5–10	N/A	—	N/A	—	2,400
6	6	6	7	0	6	—	100,000	—	1,600
9	9	9	10	1	9	N/A	N/A	1,000	2,400
40	20	20	20	2	20	—	100,000	—	2,000
N/A	**26**	**26**	**?**	**?**	**26**	**N/A**	**N/A**	**N/A**	**N/A**
125	**118**	**112**	**112**	**0**	**112**	**N/A**	**N/A**	**500**	**2,400**
55	**57**	**60**	**62**	**2–3**	**60**	**114,000**	**114,000**	**900**	**2,400**
N/A	**64**	**64**	**67**	**2–3**	**2**	**N/A**	**N/A**	**N/A**	**N/A**
41	41	39	41	2	32	—	55,000	—	2,200
N/A	454	471	496	42	471	—	115,000	—	N/A
19	19	19	19	0	N/A	N/A	N/A	N/A	N/A
5	5	5	5	0	5	—	80,000	—	3,000
8	**15**	**16**	**16**	**2**	**9**	**90,000**	**100,000**	**900**	**1,400**
75	**89**	**106**	**106**	**15**	**106**	**—**	**N/A**	**—**	**2,400**
N/A	**134**	**151**	**156**	**13**	**150**	**100,000**	**51,000**	**1,000**	**2,000**
63	70	71	71	?	71	N/A	N/A	1,000	2,200
173	170	169	174	10	169	—	133,000	—	2,400
136	136	133	136	3	113	—	3,200	—	2,310
388	389	389	391	0	320	N/A	N/A	N/A	N/A
N/A	**104**	**104**	**108**	**0**	**94**	**—**	**N/A**	**—**	**N/A**
8	**6**	**6**	**7**	**?**	**6**	**175,000**	**240,000**	**200/800**	**2,000**
534	**630**	**627**	**697**	**12**	**627**	**120,000**	**150,000**	**670**	**1,900**
100	**120**	**130**	**135**	**3**	**130**	**—**	**150,000**	**—**	**2,000**
N/A	66	66	?	?	66	—	N/A	—	2,400
33	31	31	30	2	22	—	50,000	—	2,400
52	60	61	?	?	61	N/A	N/A	—	N/A
31	31	31	31	2	21	—	50,000	—	2,400
N/A	**N/A**	**N/A**	**N/A**	**0**	**N/A**	**—**	**N/A**	**—**	**1,000**
25	**25**	**25**	**28**	**4**	**25**	**20,000**	**30,000**	**2,000**	**2,000+**
37	**39**	**40**	**40**	**2**	**40**	**N/A**	**N/A**	**1,000**	**1,600/2,000**
N/A	**59**	**21**	**25**	**?**	**21**	**N/A**	**—**	**—**	**1,800**
4	6	7	9	?	7	—	N/A	—	1,000
114	202	202	232	30	202	122,000	155,000	800	1,500
4	4	4	7	2	4	25,000	60,000	500	2,000
342	339	340	342	?	205	—	34,000	—	2,500
214	**214**	**214**	**230**	**20**	**130**	**—**	**N/A**	**—**	**3,200**
110	**192**	**193**	**194**	**5**	**189**	**80,300**	**70,200**	**800**	**1,000**
2,500	**1,924**	**2,188**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**500/1,000**	**2,200**
N/A	**11**	**29**	**30**	**2**	**29**	**150,000**	**150,000**	**900**	**2,000**
43	44	44	45	?	44	—	78,000	—	1,800
22	23	24	24	0	24	—	42,000	—	1,500
5	6	6	7	?	16	—	150,000	—	2,000
13	13	13	13	?	13	N/A	N/A	N/A	N/A
18	**18**	**21**	**21**	**2**	**9**	**—**	**N/A**	**—**	**N/A**
5	**5**	**5**	**5**	**2**	**5**	**100,000**	**100,000**	**400**	**2,500**
39	**39**	**37**	**37**	**0**	**37**	**N/A**	**N/A**	**1,000**	**2,500**
72	**62**	**67**	**74**	**?**	**67**	**N/A**	**N/A**	**900**	**2,400**
71	123	127	134	11	127	93,000	52,000	600	1,300
22	N/A	27	27	1	27	—	N/A	—	2,800
465	483	485	490	?	8	—	N/A	—	3,200
11	11	4	4	0	4	N/A	N/A	900	2,400
35	**37**	**38**	**40**	**2**	**36**	**N/A**	**N/A**	**900**	**2,200**
28	**20**	**21**	**24**	**3**	**21**	**—**	**N/A**	**—**	**1,700**
54	**50**	**50**	**52**	**2**	**21**	**—**	**50,000**	**—**	**2,000**
9	**9**	**9**	**9**	**?**	**9**	**—**	**40,000**	**—**	**2,000**
11	15	17	19	3	17	N/A	N/A	N/A	2,200
14	17	20	22	2	20	—	175,000	—	2,400
11	12	15	15	5	15	—	65,000	—	1,600
28	30	30	31	1	30	125,000	125,000	1,000	2,000
24	**24**	**25**	**?**	**3**	**25**	**—**	**30,000**	**—**	**1,200**
88	**100**	**100**	**107**	**?**	**100**	**N/A**	**125,000**	**800**	**2,400**
6	**N/A**	**N/A**	**N/A**	**N/A**	**6**	**100,000**	**150,000**	**N/A**	**1,400**
70	**78**	**85**	**90**	**10**	**85**	**N/A**	**75,000**	**N/A**	**2,400**
32	44	44	46	?	38	—	100,000	—	2,200
20	26	25	25	—	25	—	60,000	—	1,500/4,000
23	17	20	17	0	17	80,000	80,000	600	1,900
1	2	2	3	1–2	2	—	95,000	—	1,500/1,800

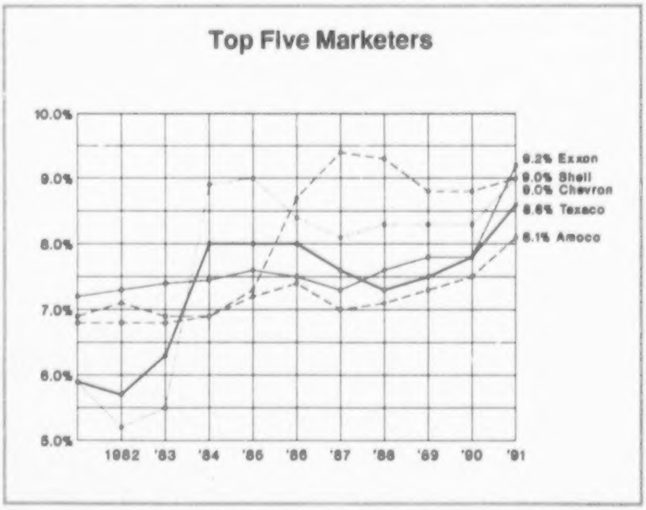
Exxon Takes Over Top Spot in Market Share; Shell's Five-Year Reign Ends

For five straight years, between 1986 and 1990, Shell Oil Co. had been taking on all comers in the gasoline market share derby.

But there was a new champ crowned in 1991. Exxon, which claimed only fourth place in the previous year's gasoline market share rankings, moved up to the number one spot last year with a reported 9.9-billion in gross gasoline gallonage and a 9% share of the total gasoline market.

At first glance, 9% market share is impressive, the highest ranking by a U.S. oil company since Shell reached 9.2% in 1988. However, Exxon's share represents a slightly larger slice of a smaller gross gallonage pie. U.S. gasoline sales as reported by the Federal Highway Administration took a nosedive in 1991, totaling almost 7-billion gal. less than 1990's gross gallonage. In 1990, by way of comparison, Shell claimed 8.8% of the U.S. gasoline market with a little over $10-billion in sales.

Trends in Gasoline Market Shares



Shell lost its No. 1 ranking because of a 4% decline in gallonage last year. Meanwhile, Exxon's throughputs soared by 11%, a gain of almost 1-billion gal. for the year.

As a group, the 15 companies represented in the rankings maintained their combined share of the total market, about 82%. Combined sales, however, were down 6.5% in lockstep with the national totals.

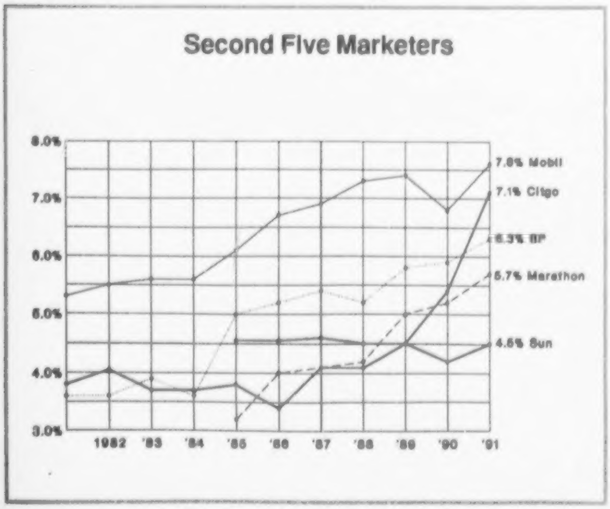
The most impressive gains last year in both gallonage and share of market were achieved by Citgo. This Tulsa-based major increased gasoline sales by almost 1.5-billion (up 23%) and its market share from 5.5% to 7%. Citgo moved only one notch up in the rankings, but the company has served notice that it will be a force to contend with in the U.S. retail gasoline market. Citgo added about 1,600 branded outlets to its retail network last year, setting the stage for much higher gallonage and market share rankings in the years ahead.

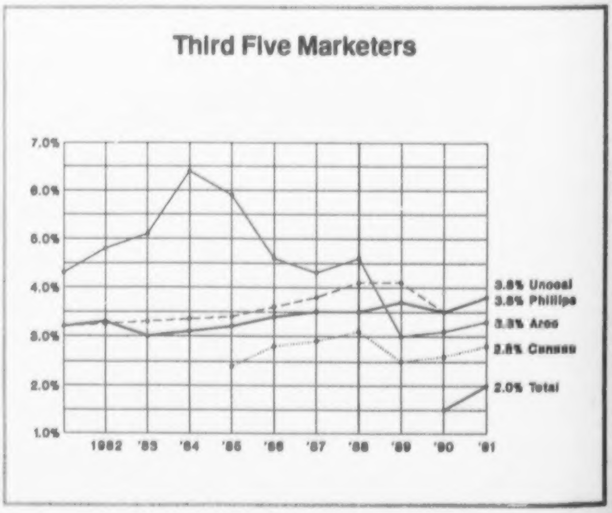
There were no other dramatic losses or gains in either market share or total gasoline sales among the remaining companies on last year's list. Eleven out of the 15 companies registered increases in total gallonage, with most of those in the 1-3% range. With the exception of Shell's 4% decline, gallonage decreases (for Sun and Conoco) were insignificant.

Other changes in the rankings, in addition to Exxon, Shell and Citgo, include Chevron (2nd to 3rd), Texaco (3rd to 4th), BP America (7th to 8th), Phillips and Unocal (which exchanged the 11th and 12th spots).

A fifteenth oil company was added to the *National Petroleum New's* market shares table in 1990. This was Denver-based Total Petroleum, the U.S. arm of the French-Canadian international oil giant. Total's market share, which has climbed to almost 2% in the past two years, now meets *NPN's* minimum requirement, 1% of the national market, for inclusion in the ranking.

With the addition of Total, there are now six companies among the top





15 which are totally or partially owned by foreign oil companies. These include Shell, BP America, Citgo, Conoco, Total and Star Enterprise. Combined, these companies account for about one-third of the gasoline sold in the United States.

Several other large companies, including Getty, Gulf, Southland, Circle K and Amerada Hess are somewhere around the 1-billion to 1.5-billion gal./year mark, but without official figures from any of them, it is very difficult, if not an impossible undertaking, to rank them. Hess, for example, provides data on refined product sales, but will not break the gasoline numbers out.

Chevron Keeps Lead as No.1 Refined Products Marketer

Although it experienced a 3% decline in volumes, Chevron held on to it leadership spot in refined product sales in 1991.

Chevron reported a 1991 total of 1.444-billion b/d in refined volumes for the year. Although this figure was down somewhat from the previous year's sales, it was well above the numbers reported by Exxon, which moved into the second slot in refined product sales.

Shell, No. 2 in the 1990 ranking, edged downward into the No. 3 position, although the compnay's total sales were up slightly.

The only other company in the 1-billion barrel per day club was Amoco, with 1.05-billion b/d.

With the exception of Exxon and Shell (up 9% and 5% respectively), the only other company to register a significant gain in refined products was Citgo, up almost 40% in 1991.

1991 Refined Product Sales

(000 b/d)

	1991	1990	% Chng.
Chevron	1,444	1,489	(3.0)%
Exxon	1,210	1,109	9.1
Shell	1,195	1,188	0.6
Amoco	1,052	1,014	3.7
Mobil	922	903	2.1
BP	891	925	(3.6)
Citgo	882	633	39.3
Texaco	869	858	1.2
Marathon	709	689	2.9
Sun	629	641	(1.8)
Phillips	534	524	1.9
Conoco	503	490	2.7
Arco	466	444	5.0
Unocal	436	443	(1.6)
Total Petro.	222	216	2.8

Gross Gasoline Gallonage and Relative Market Shares—1991(a)

NPN projection for this table: 1991 gross gasoline sales equal 108.0-billion gal.(b)

	—Rank—				
Company	1991	1990	% Share of Market	Gross Gal.(c) (000)	% Chng. vs. 1990
Exxon	1	4	9.170%	9,903,180	11.1%
Shell	2	1	9.027	9,749,880	(4.1)
Chevron	3	2	8.971	9,688,560	1.3
Texaco	4	3	8.568	9,252,881	3.0
Amoco	5	5	8.100	8,748,090	2.6
Mobil	6	6	7.580	8,186,220	2.5
Citgo	7	8	7.153	7,724,755	22.8
BP	8	7	6.345	6,852,510	-
Marathon	9	9	5.692	6,147,300	1.8
Sun	10	10	4.453	4,809,020	(0.1)
Unocal	11	12	3.796	4,100,000	2.5
Phillips	12	11	3.790	4,093,100	1.5
Arco	13	13	3.326	3,591,700	1.4
Conoco	14	14	2.782	3,004,700	(0.5)
Total Petro.	15	15	1.996	2,155,800	1.2
TOTAL			**82.2%**	**88,754,910**	**(6.5)%**

Gross Gasoline Gallonage and Relative Market Shares—1990(d)

FHA gasoline sales in 1990 totaled 114.7-billion gal.(b)

	—Rank—				
Company	1990	1989	% Share of Market	Gross Gal.(c) (000)	% Chng. vs. 1989
Shell	1	1	8.838%	10,163,790	0.5%
Chevron	2	2	8.318	9,565,920	—
Texaco	3	4	7.811	8,983,380	4.1
Exxon	4	3	7.798	8,968,050	0.5
Amoco	5	6	7.411	8,523,480	1.6
Mobil	6	5	6.945	7,986,930	(6.0)
BP	7	7	5.958	6,852,510	3.5
Citgo	8	9	5.470	6,290,970	22.8
Marathon	9	8	5.252	6,040,020	4.8
Sun	10	10	4.186	4,813,620	(5.7)
Phillips	11	12	3.506	4,031,790	(5.4)
Unocal	12	11	3.478	4,000,000	(18.8)
Arco	13	13	3.079	3,541,230	3.6
Conoco	14	14	2.626	3,020,010	4.2
Total Petro.	15	NR	1.852	2,130,100	(7.2)
TOTAL			**82.8%**	**94,911,700**	**3.0%**

NR = Not ranked.
(a) Preliminary.
(b) Retail gasoline gallonage for 1991 was projected by NPN based on Federal Highway Administration and American Petroleum Institute data. The gross gallonage statistics include some nonhighway consumption that cannot be separated out via federal and state compilations.
(c) Gross gallonage volumes as reported in annual reports, 10Ks and internal summaries. Specifically excluded are some privately owned companies that do not issue annual reports.
(d) Revised.

Share of Market — Top 20 Companies, 1989 (a)

PRODUCTION

Crude Oil and NGL (b)

Company	(Add 000 b/d)	% of Market
BP America	784.0	8.50%
Exxon	693.0	7.52
Arco	660.0	7.16
Shell	494.0	5.36
Chevron	481.9	5.23
Texaco	479.5	5.20
Amoco	390.0	4.23
Mobil	293.2	3.18
Phillips	254.0	2.76
Unocal	165.0	1.79
Oryx Energy	143.8	1.56
USX/Marathon	143.5	1.56
Occidental	135.0	1.46
DuPont	112.0	1.21
Amerada Hess	71.0	0.77
Union Pacific	63.8	0.69
City of Long Beach	53.9	0.58
Enron	53.3	0.58
Sante Fe Pacific	50.7	0.55
Valero Energy	43.7	0.47

Natural Gas

Company	Millions/CF	% of Market
Chevron	880,745	5.15%
Amoco	756,280	4.42
Texaco	729,000	4.26
Exxon	666,855	3.90
Mobil	644,000	3.76
Arco	558,085	3.26
Shell	532,535	3.11
USX/Marathon	333,245	1.95
Phillips	319,010	1.86
Unocal	277,035	1.62
DuPont	273,750	1.60
Oryx Energy	269,735	1.58
Occidental	266,450	1.56
Union Pacific	153,300	0.90
Cons. Natl. Gas	147,000	0.86
Anadarko	141,147	0.86
Mesa	137,167	0.80
Pennzoil	134,781	0.79
Enron	123,319	0.72
Amerada Hess	122,316	0.71

PROVED RESOURCES

Crude Oil and NGL (b)

Company	(Million/bbl.)	% of Market
Shell	2,881.0	8.35%
Arco	2,785.0	8.07
BP America	2,579.0	7.53
Exxon	2,487.0	7.26
Chevron	1,763.0	5.14
Amoco	1,686.0	4.92
Texaco	1,565.0	4.57
Mobil	1,202.0	3.51
USX/Marathon	586.0	1.71
Oryx Energy	571.0	1.67
Unocal	531.0	1.55
DuPont	477.0	1.39
Occidental	470.0	1.37
Phillips	459.0	1.34
Sante Fe Pacific	219.8	0.64
Amerada Hess	203.0	0.59
Union Pacific	135.3	0.39
Pennzoil	128.0	0.37
Mitchell Energy	88.5	0.26
Mesa	86.6	0.25

Natural Gas

Company	Billions/CF	% of Market
Amoco	12,254	7.33%
Exxon	9,365	5.60
Chevron	7,739	4.63
Mobil	7,347	4.40
Arco	6,452	3.86
Shell	6,223	3.72
Texaco	4,834	2.89
Unocal	4,130	2.47
Phillips	3,585	2.15
USX/Marathon	2,792	1.67
Occidental	2,489	1.49
DuPont	2,232	1.34
BP America	2,171	1.30
Oryx Energy	2,146	1.28
Mesa	2,110	1.26
Anadarko	1,671	1.00
Union Pacific	1,422	0.85
Enron	1,312	0.78
Enserch	1,230	0.74
Cons. Natl. Gas	1,211	0.72

REFINING CAPACITY

Company	Operable Capacity (000 b/d)	% of Total Capacity	Runs (c) (000 b/d)	% of U.S. Total	% Utilized
Chevron	1,621.0	10.68%	1,403.0	10.38%	86.6%
Exxon	1,147.0	7.56	999.0	7.39	87.1
Shell	1,078.6	7.10	927.0	6.86	85.9
Amoco	956.0	6.30	896.0	6.63	93.7
Mobil	838.0	5.52	722.0	5.34	86.1
BP America	756.6	4.98	717.0	5.30	94.8
USX/Marathon	603.0	3.97	554.0	4.10	91.9
Texaco	595.0	3.92	619.0	4.58	104.3
Sun	595.0	3.92	561.2	4.15	94.3
Arco	559.0	3.68	531.1	3.93	95.0
DuPont	406.5	2.68	396.0	2.93	97.4
Ashland	346.5	2.28	318.1	2.35	91.8
Petroles de Venezuela	344.5	2.27	274.3	2.03	79.6
Koch	310.0	2.04	N/A	N/A	N/A
Phillips	305.0	2.01	293.0	2.17	96.1
Coastal	302.8	1.99	262.4	1.94	86.7
Aramco	295.0	1.94	298.4	2.21	101.1
Solomon	277.1	1.82	N/A	N/A	N/A
Total Petroleum	190.1	1.25	187.1	1.38	98.4

(a) This report is updated biennially; hence, the 1990 data will not be available until October 1992.

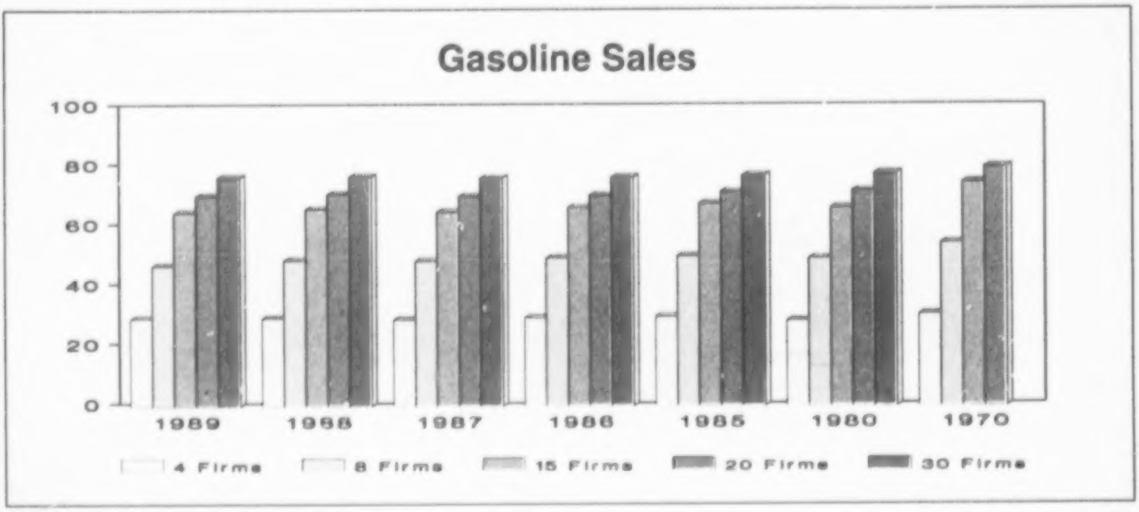
(b) Natural Gas Liquids and Condensates.

(c) Runs are not listed in the usual ranking order; they are keyed to operable capacities in column 1; hence some are not listed in the correct numerical positions.

Source: American Petroleum Institute, Discussion Paper #014R, October 1990.

Share of Market — Concentration Ratios

(% of U.S Total)



Gasoline Sales

Gasoline Sales

	1989	1988	1987	1986	1985	1980	1970
4 Firms	29.3	29.4	28.9	29.5	29.8	28.5	30.7
8 Firms	47.0	48.9	48.7	49.6	50.3	49.5	54.6
15 Firms	64.7	65.9	65.0	66.4	67.7	66.3	74.9
20 Firms	70.3	70.9	70.2	70.5	71.8	72.1	80.0
30 Firms	76.6	76.8	76.4	76.6	77.2	77.9	—

Proved Reserves of Crude Oil and Liquids

	1989	1988	1987	1986	1985	1980	1970
4 Firms	31.2	31.3	31.6	29.7	29.3	31.1	—
8 Firms	49.3	43.9	48.9	47.1	47.6	46.3	—
15 Firms	59.0	58.7	58.5	57.2	57.9	59.5	—
20 Firms	60.9	60.5	60.5	59.3	60.0	62.7	—
30 Firms	62.4	62.0	62.0	61.0	61.7	65.2	—

Production of Crude Oil and Liquids

	1989	1988	1987	1986	1985	1980	1970
4 Firms	28.5	28.7	28.3	26.6	26.1	25.3	26.3
8 Firms	46.4	46.3	46.1	44.6	43.5	40.8	41.7
15 Firms	57.5	57.2	57.3	56.4	55.2	56.1	56.9
20 Firms	60.4	60.2	60.6	59.7	58.4	60.6	61.1
30 Firms	63.2	62.8	63.9	63.2	61.9	64.8	—

Refining Capacity

	1989	1988	1987	1986	1985	1980	1970
4 Firms	31.6	32.3	32.3	33.2	34.4	29.0	32.5
8 Firms	50.0	53.3	52.0	53.0	54.4	49.0	57.5
15 Firms	68.9	72.8	70.5	71.6	73.0	67.0	78.1
20 Firms	77.9	80.4	77.2	79.0	80.3	74.5	84.3
30 Firms	88.2	89.0	86.3	87.9	88.8	82.3	—

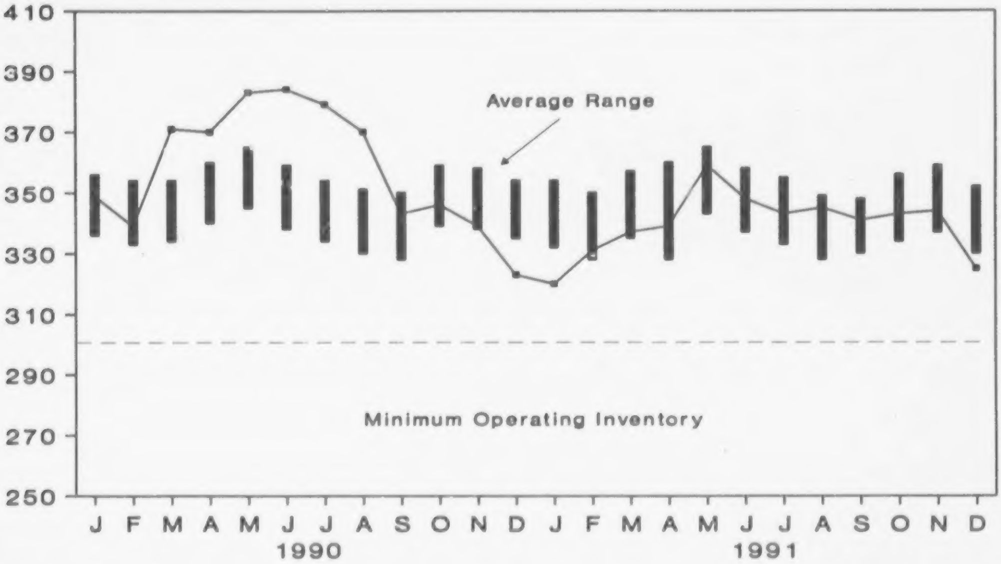
Refinery Runs

	1989	1988	1987	1986	1985	1980	1970
4 Firms	31.3	31.7	32.6	33.2	33.9	31.2	34.2
8 Firms	50.6	53.5	54.0	55.3	57.3	53.9	61.0
15 Firms	71.0	74.1	73.1	74.7	76.5	73.6	74.6
20 Firms	78.9	80.7	79.2	80.9	82.5	81.5	91.1

Source: American Petroleum Institute, Market Shares and Individual Company Data for U.S. Energy Markets, 1950-1989, October 1990.

Stocks of Crude Oil, U.S. Total

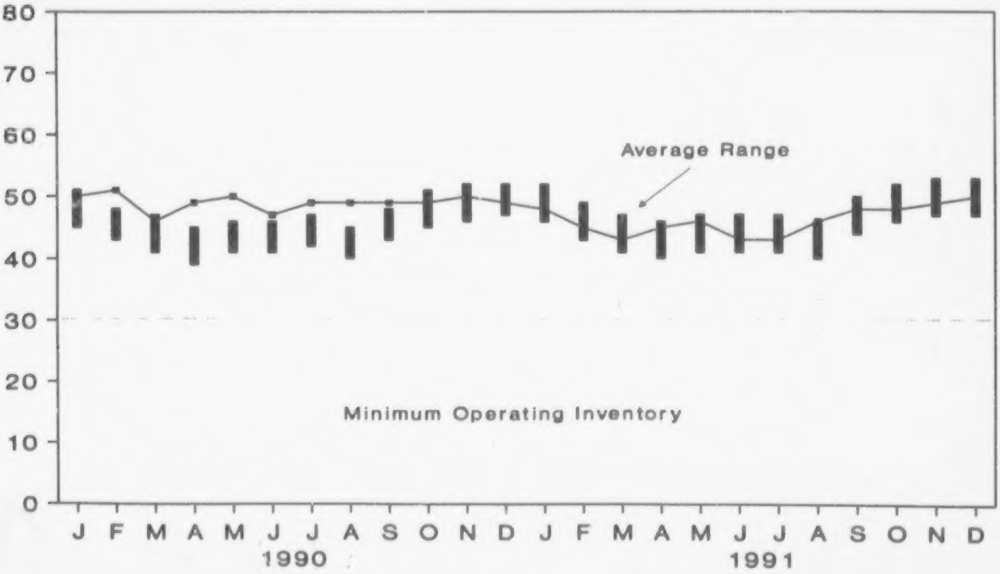
(Millions of bbl.)



Crude Stocks at Primary Levels include those held at refineries, in pipelines and in lease tanks, but do not include those held in the Strategic Petroleum Reserve operated by the U.S. Government. The average level and width of average range are based on three years of monthly data. The seasonal pattern is based on seven years of monthly data. National Petroleum Council defines the Minimum Operating Inventory at the minimum level required for routine operation. By its definition, runouts and shortages could occur if inventory levels fall below that level for any extended period of time.

Stocks of Residual Fuel Oil, U.S. Total

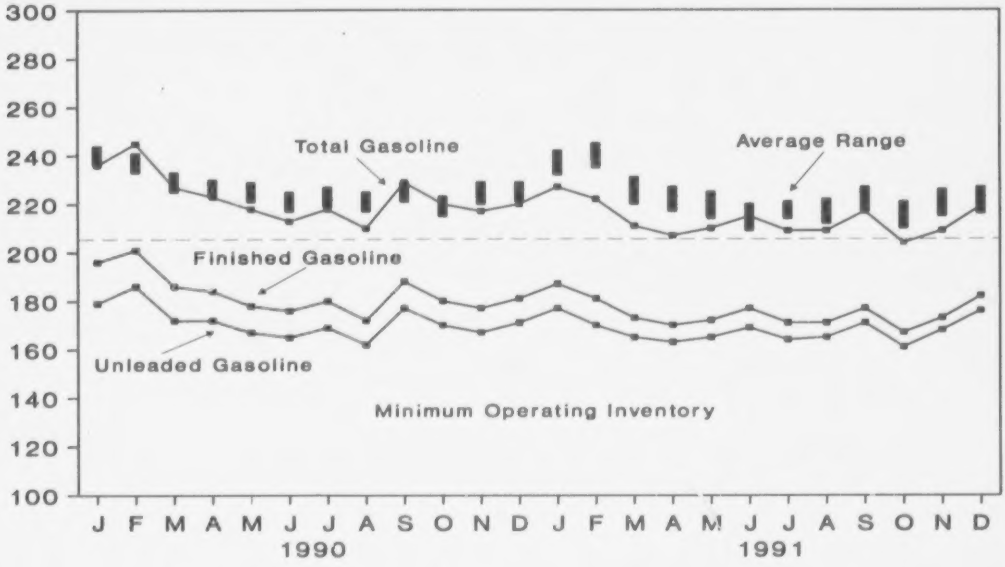
(Millions of bbl.)



Source: Energy Information Administration, Weekly Statistical Reports, 1990-1991.

Stocks of Motor Gasoline, U.S. Total

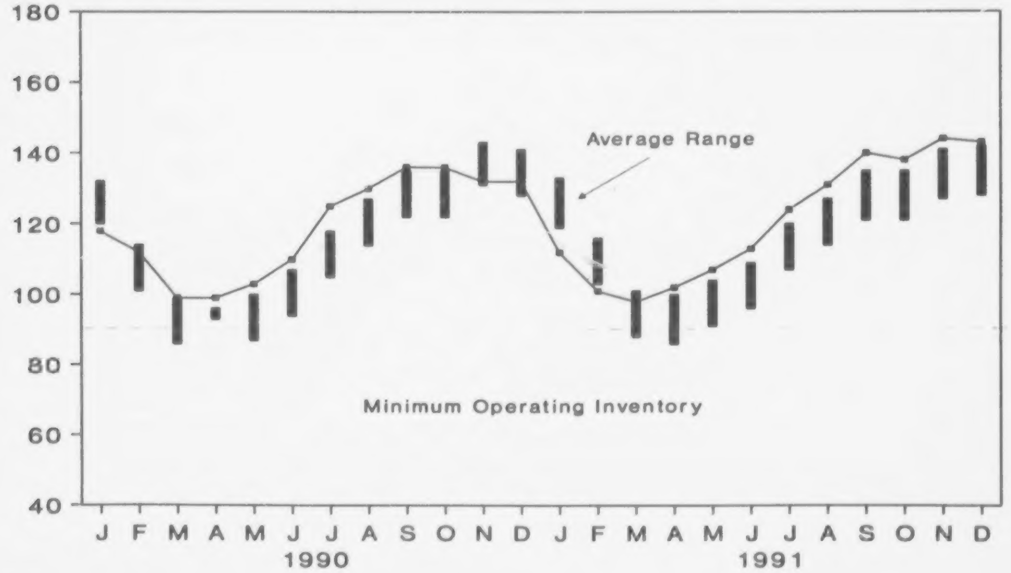
(Millions of bbl.)



Product stocks at the Primary Level include those held at refineries, in pipelines and at major bulk terminals. They do not include stocks held is secondary distribution facilities such as jobber tanks, consumer tanks, and/or barges designed for consumer markets. The average level and width of average range are based on three years of monthly data. The seasonal pattern is based on seven years of monthly data. National Petroleum Council defines the Minimum Operating Inventory as the minimum level required for routine operation. By its definition, runouts and shortages could occur if inventory levels fall below that level for any extended period of time.

Stocks of Distillate Fuel Oil, U.S. Total

(Millions of bbl.)



Source: Energy Information Administration, Weekly Statistical Reports, 1990-1991.

Petroleum Products Supplied

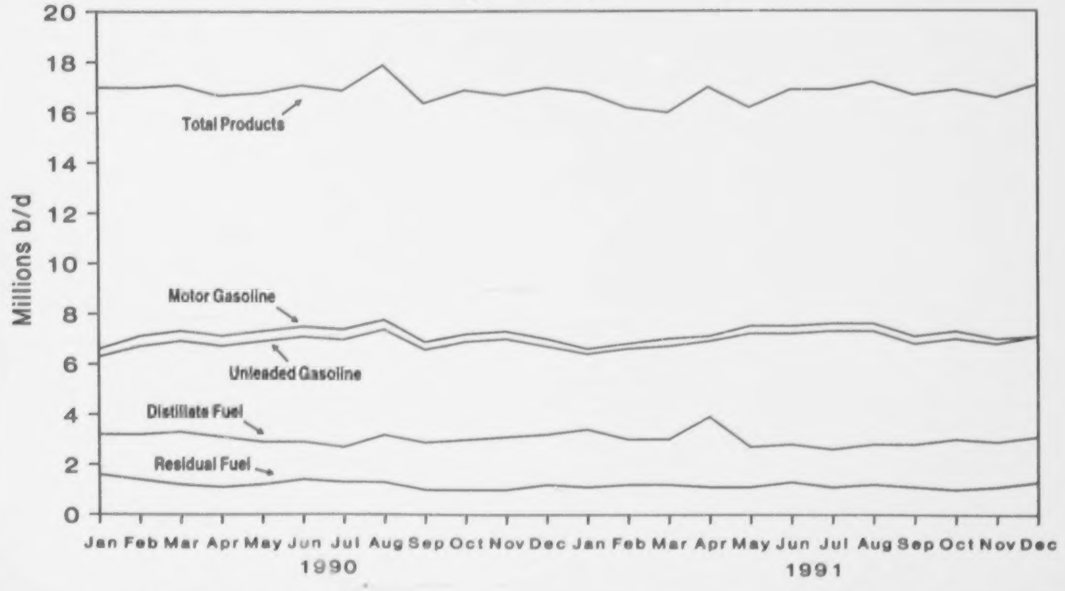
(Million b/d)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1991												
Finished Motor Gasoline	6.6	6.8	7.0	7.1	7.5	7.5	7.6	7.6	7.1	7.3	7.0	7.2
Leaded	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.1
Unleaded	6.4	6.6	6.7	6.9	7.2	7.2	7.3	7.3	6.8	7.0	6.8	7.1
Jet Fuel	1.5	1.5	1.4	1.3	1.3	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Distillate Fuel Oil	3.4	3.0	3.0	3.9	2.7	2.8	2.6	2.8	2.8	3.0	2.9	3.1
Residual Fuel Oil	1.1	1.2	1.2	1.1	1.1	1.3	1.1	1.2	1.1	1.0	1.1	1.3
Other	4.2	3.7	3.4	3.6	3.6	3.8	4.1	4.1	4.2	4.1	4.1	4.0
Total	**16.8**	**16.2**	**16.0**	**17.0**	**16.2**	**16.9**	**16.9**	**17.2**	**16.7**	**16.9**	**16.6**	**17.1**
1990												
Finished Motor Gasoline	6.6	7.1	7.3	7.1	7.3	7.5	7.4	7.8	6.9	7.2	7.3	7.0
Leaded	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3
Unleaded	6.3	6.7	6.9	6.7	6.9	7.1	7.0	7.4	6.6	6.9	7.0	6.7
Jet Fuel	1.6	1.5	1.4	1.5	1.5	1.5	1.4	1.5	1.5	1.5	1.6	1.7
Distillate Fuel Oil	3.2	3.2	3.3	3.1	2.9	2.9	2.7	3.2	2.9	3.0	3.1	3.2
Residual Fuel Oil	1.6	1.4	1.2	1.1	1.2	1.4	1.3	1.3	1.0	1.0	1.0	1.2
Other	4.0	3.7	3.9	3.9	4.0	3.9	4.1	4.2	4.2	4.1	3.8	4.1
Total	**17.0**	**17.0**	**17.1**	**16.7**	**16.8**	**17.1**	**16.9**	**17.9**	**16.4**	**16.9**	**16.7**	**17.0**
1989												
Finished Motor Gasoline	6.7	7.1	7.4	7.2	7.4	7.8	7.3	7.7	7.2	7.3	7.4	7.4
Leaded	1.0	1.0	1.0	0.9	0.9	0.9	0.8	0.8	0.8	0.7	0.6	0.5
Unleaded	5.8	6.1	6.4	6.2	6.5	6.9	6.5	6.9	6.4	6.6	6.8	6.9
Jet Fuel	1.5	1.5	1.5	1.4	1.3	1.5	1.4	1.5	1.5	1.5	1.5	1.7
Distillate Fuel Oil	3.3	3.4	3.4	3.0	3.0	3.0	2.6	3.0	2.9	3.1	3.3	3.9
Residual Fuel Oil	1.6	1.7	1.6	1.4	1.1	1.2	1.3	1.1	1.0	1.3	1.2	1.9
Other	4.1	4.1	4.1	3.6	3.8	3.9	3.9	4.0	4.0	4.0	3.8	3.9
Total	**17.3**	**17.9**	**18.0**	**16.6**	**16.5**	**17.5**	**16.5**	**17.4**	**16.8**	**17.3**	**17.7**	**18.9**

Source: Energy Information Administration, Petroleum Supply Monthly, February 1992, and Weekly Status Reports, 1990-1991; graph by NPN.

Domestic Product Supply Trends

(Millions b/d)



Stocks of Motor Gasoline

(Add 000,000 bbl.)

Year/Region	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1991												
Finished Motor Gasoline	187.2	180.8	172.6	170.3	172.0	176.0	171.4	171.1	177.4	166.5	173.3	181.7
Leaded	10.0	10.5	8.0	7.4	7.2	7.4	7.3	6.5	6.6	6.0	5.5	5.3
Unleaded	177.2	170.4	164.6	162.8	164.8	169.3	164.1	164.6	170.8	160.6	167.8	176.4
Blending Components	40.0	41.0	38.7	36.4	37.5	37.8	37.3	38.1	39.2	37.2	35.9	37.5
Total Gasoline	**227.3**	**221.9**	**211.3**	**206.6**	**209.5**	**214.6**	**208.7**	**209.1**	**216.6**	**203.7**	**209.2**	**219.2**
East Coast	63.1	54.5	54.0	57.0	58.9	60.6	54.4	54.4	59.4	53.5	55.5	55.7
Midwest	57.8	61.5	57.5	56.4	54.0	52.6	56.4	59.6	59.1	54.6	54.1	56.8
Gulf Coast	65.2	64.3	61.5	56.8	60.2	63.5	62.8	61.4	62.5	60.8	62.0	66.4
Rocky Mountain	7.8	8.4	8.0	7.2	6.8	6.6	5.9	5.2	5.7	6.1	6.9	7.4
West Coast	33.3	33.1	30.2	29.2	29.5	31.2	29.2	28.6	29.9	28.6	30.7	32.9
1990												
Finished Motor Gasoline	196.3	201.0	185.5	184.2	178.3	175.5	179.7	172.4	187.8	180.2	176.9	180.6
Leaded	17.8	15.3	13.4	12.6	11.9	10.5	10.5	10.5	11.3	10.5	9.8	9.9
Unleaded	178.5	185.7	172.2	171.6	166.5	165.0	169.2	161.9	176.5	169.7	167.1	170.7
Blending Components	39.9	44.0	41.7	38.8	39.1	37.1	38.5	37.3	40.9	39.8	40.3	39.0
Total Gasoline	**236.3**	**245.0**	**227.3**	**223.0**	**217.5**	**212.6**	**218.2**	**209.7**	**228.6**	**220.0**	**217.2**	**219.6**
East Coast	60.8	66.7	62.0	62.3	61.6	58.1	60.7	58.7	63.5	57.6	55.8	59.1
Midwest	64.6	66.8	61.0	59.7	58.7	59.4	57.3	55.8	61.3	57.6	55.5	55.3
Gulf Coast	68.0	71.4	64.9	61.1	60.9	61.6	66.4	61.4	65.9	66.4	67.6	66.4
Rocky Mountain	8.5	8.4	7.7	7.2	7.0	6.6	6.2	5.9	6.3	6.5	7.2	7.5
West Coast	34.4	31.6	31.7	32.7	29.2	27.0	27.6	27.9	31.7	31.8	31.1	31.3

Stocks of Distillate Fuel Oil

(Add 000,000 bbl.)

Year/Region	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1991												
Total U.S.	**112.1**	**101.2**	**98.3**	**102.2**	**107.1**	**113.5**	**124.3**	**130.6**	**139.4**	**138.2**	**144.4**	**143.4**
East Coast	39.8	31.7	29.7	31.6	35.4	43.3	50.6	56.1	61.7	65.5	66.7	63.4
Midwest	30.1	29.8	30.0	30.6	31.7	31.3	33.2	33.1	32.1	30.4	32.2	33.0
Gulf Coast	27.2	25.4	25.1	26.7	25.5	24.7	27.3	28.5	31.0	28.5	31.2	31.7
Rocky Mountain	3.2	3.3	3.5	3.1	3.4	3.3	3.2	2.9	2.8	2.5	2.8	3.2
West Coast	11.8	11.0	10.0	10.2	11.1	10.9	10.0	10.0	11.8	11.3	11.5	12.1
1990												
Total U.S.	**117.6**	**111.6**	**98.9**	**99.2**	**102.5**	**109.9**	**125.0**	**129.8**	**136.0**	**136.3**	**132.5**	**132.3**
East Coast	44.2	39.5	30.8	29.9	33.2	40.6	51.6	56.9	62.8	65.2	60.7	55.6
Midwest	33.2	32.6	30.1	29.4	30.0	30.0	31.6	30.4	30.0	28.7	30.0	32.7
Gulf Coast	25.6	24.4	23.4	25.5	24.0	24.9	28.4	29.0	29.3	29.5	27.0	28.2
Rocky Mountain	3.2	3.2	2.7	2.7	2.9	3.1	3.1	2.5	2.5	2.5	2.8	3.3
West Coast	11.4	11.9	11.9	11.7	12.4	11.3	10.2	11.0	11.4	10.4	12.0	12.5

Stocks of Residual Fuel Oil

(Add 000,000 bbl.)

Year/Region	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1991												
Total U.S.	**47.5**	**44.7**	**43.0**	**44.7**	**45.8**	**43.6**	**43.3**	**45.6**	**48.0**	**48.2**	**49.0**	**49.9**
East Coast	21.9	17.0	14.9	16.0	18.2	18.0	17.3	18.0	20.6	21.3	21.6	23.4
Midwest	3.4	3.5	3.7	3.9	3.9	3.8	3.9	3.9	3.4	3.5	3.4	3.4
Gulf Coast	14.4	14.9	14.3	15.6	14.8	13.8	14.1	15.1	14.9	14.5	15.3	14.9
Rocky Mountain	0.4	0.4	0.5	0.5	0.6	0.6	0.5	0.6	0.6	0.6	0.6	0.6
West Coast	7.4	8.9	9.6	8.7	8.3	7.4	7.5	8.0	8.5	8.3	8.1	7.6
1990												
Total U.S.	**50.1**	**51.2**	**46.2**	**49.0**	**49.8**	**46.7**	**49.0**	**49.0**	**49.5**	**49.4**	**50.2**	**48.6**
East Coast	22.4	23.2	18.4	19.1	19.9	20.1	21.5	21.4	22.3	22.5	22.2	23.3
Midwest	3.6	3.5	3.5	3.7	4.1	3.8	3.6	3.8	4.1	3.7	3.4	3.3
Gulf Coast	15.2	16.0	15.8	16.3	16.1	14.0	14.6	14.7	14.6	15.2	15.4	14.4
Rocky Mountain	0.5	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
West Coast	8.4	8.1	8.0	9.4	9.2	8.3	8.8	8.6	8.0	7.5	8.7	7.1

Source: Energy Information Administration, Weekly Petroleum Status Report, Feb. 28, 1992.

Refinery and Bulk Terminal Stocks By State and PAD District, 1991(a)

(Add 000 bbl.)

PAD District and State	Leaded Gasoline	Unleaded Gasoline	Kerosine	Distillate	Residual
PAD District 1					
Connecticut	0	1,122	36	3,371	381
Delaware, D.C., Maryland	8	2,023	81	5,026	2,543
Florida	0	4,836	83	2,148	1,675
Georgia	0	2,093	91	1,212	311
Maine, New Hampshire, Vermont	0	734	240	2,592	690
Massachusetts	0	1,380	134	2,627	905
New Jersey	3	7,370	61	16,658	9,397
New York	1	5,035	382	9,655	5,045
North Carolina	2	1,835	151	1,648	392
Pennsylvania	2	5,452	605	5,574	868
Rhode Island	0	873	W	1,179	W
South Carolina	0	1,190	93	878	W
Virginia	12	2,718	89	2,974	624
West Virginia	10	158	W	127	W
Total	**38**	**36,819**	**2,046**	**55,669**	**22,831**
PAD District 2					
Illinois	32	7,041	212	4,687	1,375
Indiana	194	3,617	125	3,645	380
Iowa	2	1,443	W	1,378	W
Kansas, Nebraska	71	2,129	44	2,001	52
Kentucky	8	1,505	55	838	W
Michigan	50	3,430	159	2,165	136
Minnesota	12	1,704	W	1,584	273
Missouri	4	1,280	W	907	W
North Dakota, South Dakota	56	895	W	938	W
Ohio	4	4,004	459	2,171	348
Oklahoma	49	1,929	W	1,457	414
Tennessee	0	1,645	71	1,046	177
Wisconsin	0	1,765	W	1,618	30
Total	**482**	**32,387**	**1,125**	**24,435**	**3,185**
PAD District 3					
Alabama	0	1,283	65	955	481
Arkansas	0	736	W	528	W
Louisiana	0	5,622	333	4,823	6,027
Mississippi	0	2,217	9	2,364	W
New Mexico	101	345	W	341	11
Texas	368	20,015	681	14,104	8,118
Total	**469**	**30,218**	**1,088**	**23,115**	**14,637**
PAD District 4					
Colorado	199	948	W	522	W
Idaho	137	271	W	255	W
Montana	340	796	W	614	79
Utah	134	403	W	488	160
Wyoming	203	733	W	735	W
Total	**1,013**	**3,151**	**—**	**2,614**	**239**
PAD District 5					
Alaska	44	671	W	1,127	W
Arizona	273	626	W	249	W
California	610	13,595	45	6,197	4,976
Hawaii	16	779	W	683	W
Nevada	40	310	W	148	W
Oregon	562	985	W	880	112
Washington	1,156	2,633	W	1,739	1,157
Total	**2,701**	**19,599**	**45**	**11,023**	**6,245**
U.S. Total	**4,703**	**122,174**	**4,304**	**116,856**	**47,137**

(a) Stocks are reported as of the last day of the month. W = Withheld to avoid disclosure of individual company data.

Source: Energy Information Administration, Petroleum Supply Monthly, Table 52, February 1992.

U.S. Crude Oil Production, 1981 — 1990

(Thousands of b/d)

	1990	1989	1988	1987	1986	1985	1984	1983	1982	1981
PAD District 1										
Florida	15.5	20.0	21.2	22.7	25.7	31.4	39.6	53.4	70.2	95.3
New York	1.1	1.4	1.5	1.9	2.3	2.9	2.3	2.3	2.3	2.3
Pennsylvania	7.2	7.4	7.7	9.0	10.4	13.3	11.7	11.7	11.7	10.2
Virginia	**	**	**	**	**	**	**	0.2	0.1	**
West Virginia	5.9	6.1	7.2	7.8	8.6	9.7	9.7	9.9	8.9	9.5
Total	**29.7**	**34.9**	**37.6**	**41.4**	**47.0**	**57.3**	**63.3**	**77.5**	**93.2**	**117.3**
PAD District 2										
Illinois	54.7	55.8	61.4	65.7	74.6	82.9	79.1	80.0	75.9	66.0
Indiana	8.2	9.1	10.0	10.2	13.0	14.2	15.1	14.6	15.2	12.9
Kansas	151.9	152.0	160.7	164.1	183.7	206.6	207.5	196.1	193.2	180.3
Kentucky	14.8	14.8	14.9	15.7	17.7	21.3	21.3	21.6	20.2	17.9
Michigan	53.9	59.1	63.5	71.2	70.4	74.8	83.7	86.9	86.2	89.5
Missouri	0.4	0.4	0.4	0.3	0.3	0.6	0.8	0.7	0.6	0.6
Nebraska	16.1	17.1	16.3	16.7	19.4	19.0	17.7	17.5	18.8	18.3
North Dakota	100.6	100.7	107.5	113.3	125.0	139.3	144.3	138.9	129.5	124.4
Ohio	27.4	28.0	32.0	33.3	36.8	41.1	41.8	41.0	39.9	37.1
Oklahoma	307.6	321.9	352.1	368.2	386.6	445.9	461.3	434.5	434.6	422.1
South Dakota	4.5	4.4	4.5	4.5	4.3	4.4	3.7	3.2	3.2	2.7
Tennessee	1.4	1.5	1.6	1.7	2.1	2.9	3.3	3.6	3.7	3.2
Total	**741.5**	**764.8**	**824.9**	**864.9**	**933.9**	**1,053.0**	**1,079.6**	**1,038.6**	**1,021.0**	**975.0**
PAD District 3										
Alabama	50.8	54.3	56.8	56.5	57.9	59.1	54.3	51.4	54.8	56.6
Arkansas	28.5	30.9	37.2	39.0	43.2	52.2	51.3	51.6	51.6	50.3
Louisiana	1,069.6	1,107.7	1,194.4	1,304.2	1,403.0	1,392.4	1,411.7	1,313.9	1,255.9	1,231.0
Mississippi	74.1	75.1	75.3	77.0	82.2	83.9	89.8	86.2	90.5	93.7
New Mexico	184.2	188.3	194.6	198.2	207.4	215.2	217.4	205.9	194.6	196.1
Texas	1,932.8	1,961.8	2,084.2	2,152.0	2,300.3	2,435.2	2,478.8	2,473.0	2,535.1	2,589.4
Total	**3,340.0**	**3,418.1**	**3,642.5**	**3,826.9**	**4,094.0**	**4,238.0**	**4,303.3**	**4,182.0**	**4,182.5**	**4,217.1**
PAD District 4										
Colorado	83.4	84.0	88.4	78.9	80.3	82.9	79.0	79.6	83.7	83.0
Montana	54.3	57.4	63.8	68.7	74.2	81.6	81.5	80.1	84.7	84.4
Utah	75.6	77.9	90.2	98.0	107.3	111.8	95.0	80.9	61.5	70.9
Wyoming	284.5	295.1	311.4	315.8	332.4	352.1	340.5	324.1	324.1	357.7
Total	**497.8**	**514.4**	**553.8**	**561.4**	**594.2**	**628.4**	**596.0**	**564.7**	**554.0**	**596.0**
PAD District 5										
Alaska	1,773.5	1,873.9	2,016.8	1,961.5	1,866.6	1,825.3	1,727.1	1,713.8	1,695.6	1,609.1
Arizona	0.3	0.4	0.3	0.4	0.4	0.5	0.6	0.6	0.9	1.0
California	961.4	997.9	1,054.7	1,084.1	1,114.2	1,161.3	1,128.8	1,108.7	1,100.2	1,054.7
Nevada	11.0	8.8	8.8	8.5	8.0	8.3	5.2	2.2	1.7	1.9
Total	**2,746.2**	**2,881.0**	**3,080.6**	**3,054.5**	**2,989.2**	**2,995.4**	**2,861.7**	**2,825.3**	**2,798.4**	**2,666.7**
Total U.S.	**7,355.2**	**7,613.2**	**8,139.4**	**8,349.1**	**8,658.3**	**8,972.1**	**8,903.9**	**8,688.1**	**8,649.1**	**8,572.1**

**Less than 100 b/d.

Source: Independent Petroleum Assn. of America, "The Oil and Natural Gas Producing Industry in Your State," 1991-1992.

IPAA's New Outlook: Demand Up Slightly

The latest short-run forecast of domestic supply and demand from the Independent Petroleum Assn. of America (IPAA) anticipates a modest improvement in product demand, but continued softness in production, through the end of 1992.

The forecast by IPAA's supply and demand committee, released in March, predicts domestic consumption will increase for gasoline, distillate and aviation fuels, but decline for residual fuels. Excluding exports, which are expected to drop by 12% compared to the previous year's figures.

On the supply side, IPAA's forecast shows a continuing slide in domestic oil production, with crude oil output falling about 3% for the year. Crude oil imports, on the other hand, are projected to increase by 4% in 1992.

1992 Forecast

DEMAND

(000 b/d)

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	1992 Average	1991-1992 % Change
Domestic Products						
Motor Gasoline	6,930	7,353	7,380	7,237	7,226	0.5%
Aviation Fuels	1,532	1,455	1,533	1,579	1,525	2.4
Distillate Fuel	3,244	2,800	2,778	3,180	3,000	2.7
Residual Fuel Oil	1,224	1,082	1,096	1,195	1,149	(0.3)
Other Products	3,877	3,796	4,198	4,047	3,980	2.4
Total Domestic Demand	**16,807**	**16,486**	**16,985**	**17,238**	**16,880**	**1.4**
Total Exports	**970**	**851**	**833**	**867**	**880**	**(12.1)**
TOTAL DEMAND	**17,777**	**17,337**	**17,818**	**18,105**	**17,760**	**0.7**

SUPPLY

(000 b/d)

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	1992 Average	1991-1992 % Change
Domestic Production						
Crude Oil	7,250	7,189	7,131	7,063	7,158	(2.9%)
Natural Gas Liquids	1,639	1,615	1,604	1,629	1,622	(1.8)
Total Production	**8,889**	**8,804**	**8,735**	**8,692**	**8,780**	**(2.7)**
Imports						
Motor Gasoline	252	414	353	307	332	0.0
Aviation Fuels	61	81	74	72	72	16.1
Distillate Fuel	187	205	191	268	213	4.9
Residual Fuel Oil	401	418	451	491	441	(1.6)
Other Products	718	764	809	780	767	2.5
Total Products	**1,619**	**1,882**	**1,878**	**1,918**	**1,825**	**1.8**
Crude Oil Imports	5,634	5,975	6,339	6,099	6,014	4.0
Total Imports	**7,253**	**7,857**	**8,217**	**8,017**	**7,839**	**3.5**
Other Supply	1,005	1,012	1,186	1,114	1,078	(26.8)
TOTAL SUPPLY	**17,147**	**17,673**	**18,138**	**17,823**	**17,697**	**(2.1)**
REFINERY INPUTS	**12,937**	**13,153**	**13,570**	**13,372**	**13,260**	**(0.3%)**

CLOSING STOCKS

(000,000 b/d)

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	1992 Average	1991-1992 % Change
Motor Gasoline	220.7	214.2	214.7	219.5	219.5	4.1%
Aviation Fuels	47.0	49.9	48.1	47.0	47.0	(2.7)
Distillate Fuel	108.5	112.9	132.6	135.7	135.7	(4.4)
Residual Fuel Oil	44.4	43.5	45.3	46.1	46.1	(5.9)
Other Products	248.8	274.8	288.3	261.3	261.3	(6.4)
Total Products	**669.4**	**695.3**	**729.0**	**709.6**	**709.6**	**(2.7)**
Crude Oil Stocks	339.7	344.4	340.1	333.6	333.6	(1.0)
TOTAL STOCKS	**1,009.1**	**1,039.7**	**1,069.1**	**1,043.2**	**1,043.2**	**(2.2)**
IMPORTS AS % OF DEMAND	**43.2%**	**47.7%**	**48.4%**	**46.5%**	**46.4%**	

Notes: Other supply products include refinery processing gain, unaccounted crude oil and other hydrocarbons. SPR imports and stocks are excluded. Refinery Crude Runs include crude oil, NGL, unfinished oils and other hydrocarbons.

Source: IPAA Supply and Demand Committee, March 1992.

U.S. Refinery Operations

(Add 000 b/d)

	Full Year			4th Quarter			3rd Quarter			2nd Quarter		
U.S. Refinery Operations	1991	1990	% Chng.	1991	1990	% Chng.	1991	1990	% Chng.	1991	1990	% Chng.
Input to crude oil distillation units	13,487	13,610	(0.9)	13,236	13,073	1.2	13,980	14,316	(2.3)	13,682	13,573	0.8
Operable capacity	15,709	15,624	0.5	15,721	15,663	0.4	15,712	15,667	0.3	15,678	15,587	0.6
Refinery utilization (%)	85.9	87.1	(1.4)	84.2	83.5	0.8	89.0	91.4	(2.6)	87.3	87.1	0.2
Crude oil runs	13,281	13,409	(1.0)	13,029	12,828	1.6	13,799	14,153	(2.5)	13,494	13,375	0.9

Source: American Petroleum Institute, Monthly Statistical Reports, 1991.

Crude Oil and Product Inventories

(Add 000,000 bbl.)

	Full Year			4th Quarter			3rd Quarter			2nd Quarter		
Stocks	1991	1990	% Chng.	1991	1990	% Chng.	1991	1990	% Chng.	1991	1990	% Chng.
Crude oil (a)	327.8	322.7	1.6	327.8	322.7	1.6	338.8	342.6	(1.1)	349.6	384.2	(9.0)
Unfinished oils	99.4	98.7	0.7	99.4	98.7	0.7	109.6	112.7	(2.8)	109.2	117.2	(6.8)
Total motor gasoline (b)	220.1	219.6	0.2	220.1	219.6	0.2	215.3	228.6	(5.8)	217.9	212.6	2.5
Finished leaded gasoline	5.4	9.9	(45.5)	5.4	9.9	(45.5)	6.9	11.3	(38.9)	7.4	10.5	(29.5)
Finished unleaded gasoline	177.1	170.7	3.7	177.1	170.7	3.7	170.3	176.5	(3.5)	170.7	165.0	3.5
Naphtha jet	4.7	6.2	(24.2)	4.7	6.2	(24.2)	5.0	6.1	(18.0)	5.8	7.0	(17.1)
Kerosine jet	45.0	45.9	(2.0)	45.0	45.9	(2.0)	45.8	43.8	4.6	42.8	40.4	5.9
Distillate fuel oil	143.2	132.2	8.3	143.2	132.2	8.3	137.4	136.0	1.0	113.3	109.9	3.1
Residual fuel oil	48.9	48.6	0.6	48.9	48.6	0.6	47.8	49.4	(3.2)	44.1	46.8	(5.8)
All other fuel oils	153.7	161.0	(4.5)	153.7	161.0	(4.5)	195.3	189.4	3.1	188.2	180.3	4.4
Total all oils	**1,042.8**	**1,034.9**	**0.8**	**1,042.8**	**1.034.9**	**0.8**	**1,095.0**	**1,108.6**	**(1.2)**	**1,070.9**	**1,098.4**	**(2.5)**

(a) Does not include Strategic Petroleum Reserve; (b) Total includes lead and unleaded gasoline and blending components.
Source: American Petroleum Institute, Monthly Statistical Reports, 1991.

Domestic Supply Trend

(Add 000 bbl.)

Year	All products	Gasoline	Kerosine (a)	Distillate	Residual	LPG	Lubes	Other
1991	6,097	2,625	552	1,065	420	603	53	779
1990	6,170	2,633	569	1,102	447	565	59	795
1989	6,288	2,675	543	1,152	500	609	58	751
1988	6,261	2,670	481	1,132	487	631	58	802
1987	6,083	2,630	465	1,086	461	588	59	794
1986	5,943	2,576	439	1,064	518	555	52	739
1985	5,740	2,493	404	1,047	439	584	53	720

(a) Kerosine includes jet fuel.
Source: Energy Information Administration, Petroleum Supply Monthlies, Table 5, February 1991 and 1992.

U.S. Estimated Petroleum Balance

(Add 000 b/d)

	Full Year			4th Quarter			3rd Quarter			2nd Quarter		
Petroleum Products Supplied From Primary Storage (a)	1991	1990	% Chng.	1991	1990	% Chng.	1991	1990	% Chng.	1991	1990	% Chng.
Products Supplied:												
Motor gasoline, total	7,182	7,235	(0.7)	7,125	7,148	(0.3)	7,427	7,407	0.3	7,251	7,333	(1.1)
Finished leaded gasoline	256	385	(33.5)	203	303	(33.0)	287	382	(24.9)	283	420	(32.6)
Finished unleaded gasoline	6,926	6,850	1.1	6,922	6,845	1.1	7,140	7,025	1.6	6,968	6,913	0.8
Naphtha jet	176	182	(3.3)	170	183	(7.1)	183	180	1.7	179	182	(1.6)
Kerosine jet	1,302	1,340	(2.8)	1,354	1,384	(2.2)	1,335	1,317	1.4	1,187	1,323	(10.3)
Distillate fuel oil	2,924	3,021	(3.2)	3,040	2,955	2.9	2,776	2,937	(5.5)	2,807	2,955	(5.0)
Residual fuel oil	1,167	1,229	(5.0)	1,212	1,097	10.5	1,132	1,177	(3.8)	1,154	1,226	(5.9)
All other oils	4,142	4,127	0.4	4,233	4,158	1.8	4,264	4,414	(3.4)	3,855	3,989	(3.4)
Reclassified	-245	-145	69.0	-215	-217	(0.9)	-270	-209	29.2	-214	-56	382.1
Total Domestic Products Supplied	**16,648**	**16,989**	**(2.0)**	**16,919**	**16,708**	**1.3**	**16,847**	**17,223**	**(2.2)**	**16,219**	**16,952**	**(4.3)**
Exports	961	857	12.1	861	1,074	(19.8)	981	797	23.1	834	751	11.1
Total Products Supplied	**17,609**	**17,846**	**(1.3)**	**17,780**	**17,782**	**0.0**	**17,828**	**18,020**	**(1.1)**	**17,053**	**17,703**	**(3.7)**
Supply:												
Domestic Production:												
Crude oil	7,363	7,355	0.1	7,273	7,422	(2.0)	7,316	7,228	1.2	7,361	7,281	1.1
Natural gas liquids	1,639	1,559	5.1	1,642	1,653	(0.7)	1,688	1,551	8.8	1,641	1,485	10.5
Other supply	1,045	1,032	1.3	899	1,189	(24.4)	1,040	1,022	1.8	1,110	928	19.6
Total Domestic Supply	**10,047**	**9,946**	**1.0**	**9,814**	**10,264**	**(4.4)**	**10,044**	**9,801**	**2.5**	**10,112**	**9,694**	**4.3**
Imports:												
Crude oil, total (b)	5,781	5,867	(1.5)	5,593	4,941	13.2	6,241	6,299	(0.9)	6,044	6,184	(2.3)
Canadian	747	643	16.2	718	665	8.0	657	656	0.2	749	657	14.0
Other	5,034	5,224	(3.6)	4,875	4,276	14.0	5,584	5,643	(1.0)	5,295	5,527	(4.2)
Products, Total	**1,802**	**2,123**	**(15.1)**	**1,857**	**1,776**	**4.6**	**1,900**	**2,031**	**(6.5)**	**1,814**	**2,251**	**(19.4)**
Residual fuel oil	460	504	(8.7)	527	419	25.8	484	476	1.7	407	517	(21.3)
Other	1,342	1,619	(17.1)	1,330	1,357	(2.0)	1,416	1,555	(8.9)	1,407	1,734	(18.9)
Total Imports	**7,583**	**7,990**	**(5.1)**	**7,450**	**6,717**	**10.9**	**8,141**	**8,330**	**(2.3)**	**7,858**	**8,435**	**(6.8)**
Total Supply	**17,630**	**17,936**	**(1.7)**	**17,264**	**16,981**	**1.7**	**18,185**	**18,131**	**0.3**	**17,970**	**18,129**	**(0.9)**

(a) Preliminary; (b) Does not include SPR reports or reserves.
Source: American Petroleum Institute, Monthly Statistical Reports, 1991.

Petroleum Product Consumption, 1990

(000 gal.)

State	Motor Gasoline	Aviation Fuels	Middle Distillates (a)	Residual Fuel Oil	Propane	Total Products
Alabama	45,631	1,249	17,232	2,910	3,255	70,277
Alaska	5,334	16,297	9,147	7,304	237	38,319
Arizona	40,938	6,468	9,943	w	1,381	58,730
Arkansas	33,150	511	15,473	w	2,745	51,879
California	353,489	87,245	89,273	67,684	12,676	610,367
Colorado	37,091	5,369	10,431	127	2,138	55,156
Connecticut	32,205	2,037	19,397	19,303	870	73,812
Delaware	8,973	67	7,238	3,027	1,482	20,787
Dist. of Col.	3,855	w	2,918	w	—	6,773
Florida	148,566	24,646	36,218	35,046	7,490	251,966
Georgia	84,092	15,604	27,324	1,083	4,965	133,068
Hawaii	8,384	9,451	3,960	13,209	w	35,004
Idaho	11,497	444	5,813	w	472	18,226
Illinois	114,797	3,277	36,963	2,296	10,878	168,211
Indiana	63,155	15,507	34,801	765	5,494	119,722
Iowa	33,779	799	17,092	w	5,846	57,516
Kansas	36,031	2,685	18,130	700	18,457	76,003
Kentucky	42,967	4,954	20,620	305	3,978	72,824
Louisiana	60,547	28,643	41,092	35,064	8,910	174,256
Maine	18,722	1,357	12,198	11,639	557	44,473
Maryland	48,231	2,318	18,007	5,726	943	75,225
Massachusetts	62,306	8,459	39,748	18,503	1,585	130,601
Michigan	101,563	7,918	24,938	1,055	8,555	144,029
Minnesota	47,010	4,639	19,649	1,553	6,815	79,666
Mississippi	31,240	5,751	20,019	97	7,646	64,753
Missouri	60,212	5,882	18,708	861	7,070	92,733
Montana	11,148	588	5,945	30	1,262	18,973
Nebraska	17,547	793	12,085	w	2,579	33,004
Nevada	16,996	3,629	6,289	176	—	27,090
New Hampshire	9,233	269	9,438	5,413	1,009	25,362
New Jersey	118,004	40,445	78,299	29,247	1,963	267,958
New Mexico	17,770	1,146	8,981	284	3,541	31,722
New York (c)	122,898	3,656	59,439	68,509	4,158	258,660
North Carolina	82,180	3,065	29,266	5,370	7,349	127,230
North Dakota	7,617	205	6,103	11	2,164	16,100
Ohio	117,577	9,479	40,654	1,285	5,175	174,170
Oklahoma	50,066	9,327	20,184	551	4,374	84,502
Oregon	33,668	2,888	16,598	4,653	1,046	58,853
Pennsylvania	116,017	10,573	58,483	18,212	5,957	209,242
Rhode Island	13,826	653	10,908	1,410	426	27,223
South Carolina	43,065	977	14,111	2,353	3,063	63,569
South Dakota	8,954	246	5,773	w	1,160	16,133
Tennessee	68,158	3,641	28,490	499	2,129	102,917
Texas	300,101	100,029	133,335	43,647	68,407	645,519
Utah	19,637	4,250	8,500	164	1,003	33,554
Vermont	5,163	129	2,807	263	683	9,045
Virginia	74,782	11,026	33,700	7,483	2,122	129,113
Washington	59,122	18,380	24,417	19,313	2,791	124,023
West Virginia	14,329	187	8,389	723	315	23,943
Wisconsin	50,551	1,177	21,261	1,157	5,406	79,552
Wyoming	6,249	98	8,918	582	2,023	17,870
U.S. Total	**2,918,423**	**488,433**	**1,228,705**	**439,592**	**254,550**	**5,329,703**

(a) Includes kerosine.

(b) Totals do not include asphalt, naptha, lubricants, petroleum coke, still gas and waxes.

w = Withheld for proprietary reasons.

Source: U.S. Dept. of Energy.

Supply and Demand, Principle Products

(Add 000 bbl.)

Year	Motor Gasoline	Aviation Gasoline	Distillate Fuel Oil	Residual Fuel Oil	Jet Fuels (a)	Lubricants	Asphalt
Domestic Supply							
1991	2,625,499	8,265	1,064,835	420,588	534,930	53,175	160,921
1990	2,632,764	8,910	1,102,162	447,194	543,184	58,993	175,963
Production							
1991	2,546,719	8,031	1,080,586	340,895	524,879	57,026	156,540
1990	2,537,638	8,538	1,067,693	345,249	532,261	61,155	163,725
Imports							
1991	108,230	68	73,944	163,540	22,684	2,618	9,148
1990	120,433	50	100,971	183,903	37,670	3,540	11,410

Source: Energy Information Administration, Petroleum Supply Monthly.

Unleaded Gasoline: Growth by Years

(Add 000 b/d)

	Total Gasoline Consumption	Unleaded Gasoline Consumption	Unleaded Gasoline of Total
1991			
January	6,643	6,361	95.8
February	6,806	6,592	96.9
March	7,047	6,737	95.6
April	7,137	6,860	96.1
May	7,475	7,195	96.3
June	7,465	7,193	96.4
July	7,561	7,271	96.2
August	7,555	7,271	96.2
September	7,091	6,838	96.4
October	7,273	7,030	96.6
November	7,005	6,827	97.5
December	7,221	7,061	98.1
Average	**7,193**	**6,941**	**96.5**

(Add 000 b/d)

	Total Gasoline Consumption	Unleaded Gasoline Consumption	Unleaded Gasoline of Total
1990			
January	6,643	6,246	94.0
February	7,179	6,703	93.4
March	7,338	6,894	93.9
April	7,121	6,704	94.1
May	7,358	6,937	94.3
June	7,519	7,099	94.4
July	7,496	7,090	94.6
August	7,796	7,383	94.7
September	6,914	6,589	95.3
October	7,226	6,883	95.3
November	7,241	6,940	95.8
December	6,976	6,713	96.2
Average	**7,235**	**6,850**	**94.7**

Source: Energy Information Administration, Monthly Energy Review, March 1992.

U.S. Oil Imports

(Add 000 b/d)

Year	Crude Oil	Other Products	Residual Fuel Oil	Total Imports	% of Total US Supply
1991	5,782	1,346	448	7,576	45.5
1990	5,876	1,547	504	7,954	44.6
1989	5,787	1,588	629	8,004	46.2
1988	5,107	1,651	644	7,402	42.8
1987	4,674	1,439	565	6,678	40.0

Source: Energy Information Administration, Petroleum Supply Monthly.

Origins of U.S. Oil Imports

	OPEC Sources		Arab OPEC		Western Hemisphere	Eastern Hemisphere
Year	000 b/d	% of Total Imports	000 b/d	% of Total Imports	000 b/d	000 b/d
1991 (a)	4,060	53.6	2,056	21.1	3,515	4,061
1990 (b)	4,276	53.8	2,232	28.1	3,470	4,484
1989	4,140	51.3	2,130	26.4	4,513	3,466
1988	3,520	47.6	1,839	24.8	4,361	3,077
1987	3,060	45.8	1,274	19.1	4,069	2,608

(a) Preliminary.
(b) Revised.
Source: Energy Information Administration, Petroleum Supply Monthly.

State Motor Fuel Tax Collections

State	State Gas. Tax Rates Per Gal. (Cents per Gal.) 1991	Total State Motor Fuel Tax Revenues (a) (000) 1991	Total State Motor Fuel Tax Revenues (a) (000) 1990	% Change
Alabama	13	$361,062	$359,410	0.5%
Alaska	8	21,551	25,179	-14.4
Arizona	18	350,018	346,934	0.9
Arkansas	18.7	273,257	214,619	27.3
California	15	2,112,876	1,328,932	59.0
Colorado	22	335,020	319,887	4.7
Connecticut	25	321,200	306,260	4.9
Delaware	19	74,426	64,136	16.0
Dist. of Col.	18	30,514	30,061	1.5
Florida	11.2	740,550	710,708	4.2
Georgia	7.5	327,867	332,960	-1.5
Hawaii	16	55,837	45,410	23.0
Idaho	21	116,572	106,562	9.4
Illinois	19	989,543	1,058,695	-6.5
Indiana	15	562,520	579,748	-3.0
Iowa	20	318,525	319,440	-0 3
Kansas	17	232,350	224,972	3.3
Kentucky	15.4	333,318	357,182	-6.7
Louisiana	20	421,985	452,904	-6.8
Maine	19	127,215	121,180	5.0
Maryland	18.5	431,233	450,277	-4.2
Massachusetts	21	444,066	354,985	25.1
Michigan	15	682,301	684,298	-0.3
Minnesota	20	486,212	468,208	4.3
Mississippi	18.2	308,717	298,053	3.6
Missouri	11.03	356,347	359,602	-0.9
Montana	20	99,547	105,355	-5.5
Nebraska	23.7	221,719	203,715	8.8
Nevada	18	$155,329	$149,704	3.8%
New Hampshire	18.6	96,168	87,741	9.6
New Jersey	10.5	424,559	415,298	2.2
New Mexico	17	171,914	165,501	3.9
New York	20.14	530,598	529,466	0.2
North Carolina	22.6	856,905	845,722	1.3
North Dakota	17	66,705	71,308	-6.5
Ohio	21	1,049,71	1,044,542	0.5
Oklahoma	17	298,241	316,439	-5.8
Oregon	20	271,024	244,165	11.0
Pennsylvania	22.4	1,075,133	1,025,423	4.8
Rhode Island	26	102,102	83,504	22.3
South Carolina	16	344,716	352,700	-2.3
South Dakota	18	76,307	81,177	-6.0
Tennessee	20	635,566	646,225	-1.6
Texas	20	1,536,027	1,510,797	1.7
Utah	19	165,367	166,661	-0.8
Vermont	16	58,108	57,558	1.0
Virginia	17.7	590,736	612,287	-3.5
Washington	23	549,854	538,347	2.1
West Virginia	20.35	149,921	152,335	-1.6
Wisconsin	22.2	544,739	539,134	1.0
Wyoming	9	42,572	44,978	-5.3
Total U.S.	—	**20,930,653**	**19,910,984**	**5.1**
% Change from Prior Year	—	**5.1%**	**5.5%**	—

R.I.
Conn.
NJ
Del.
Md.
Wash. D.C.
Hawaii
States that prohibit diversion of motor fuel taxes to nonhighway uses.
States that have no such provisions.

(a) Estimated for 1991. Both 1991 and 1990 totals include some miscellaneous "other receipts," however, these are smallish amounts. The bulk of the taxes herein are for gasoline. The totals DO NOT include diesel fuels or LPG taxes.

Source: Federal Highway Administration, Selected Highway Statistics, Table SS90-2, October 1991.

State and Federal Gasoline Taxes, 1991

(¢ per gal.)

State	State Gasoline Tax Rate	State Gasohol Tax Rate	State Diesel Tax Rate	State Sales or Special Taxes	Local Option	State + 14.1¢ Federal Tax
Alabama	13.0	13.0	14.0	—	Yes	27.1
Alaska	8.0	0.0	8.0	—	—	22.1
Arizona	18.0	18.0	18.0	—	—	32.1
Arkansas	18.5	18.5	18.5	—	—	32.6
California	15.0	15.0	15.0	6.25	Yes	29.1
Colorado	22.0	22.0	18.0	—	—	36.1
Connecticut	26.0	24.0	18.0	3.0	—	40.1
Delaware	19.0	19.0	19.0	—	—	33.1
Dist. of Col	18.0	18.0	18.0	—	—	32.1
Florida*	11.6	11.6	12.6	—	Yes	25.7
Georgia	7.5	7.5	7.5	4.0	—	21.6
Hawaii	16.0	16.0	16.0	4.0	Yes	30.1
Idaho	21.0	17.0	21.0	—	—	35.1
Illinois	19.0	19.0	21.5	6.25	Yes	33.1
Indiana	15.0	15.0	16.0	5.0	—	29.1
Iowa	20.0	19.0	22.5	—	—	34.1
Kansas	17.0	16.0	19.0	—	—	31.1
Kentucky*	15.0	15.0	12.0	—	—	29.1
Louisiana	20.0	20.0	20.0	—	—	34.1
Maine	19.0	19.0	20.0	—	—	33.1
Maryland	18.5	18.5	18.5	—	—	32.6
Massachusetts*	21.0	21.0	21.0	—	—	35.1
Michigan*	15.0	15.0	15.0	4.0	—	29.1
Minnesota	20.0	18.0	20.0	—	Yes	34.1
Mississippi	18.0	18.0	18.0	—	Yes	32.1
Missouri	11.0	11.0	11.0	—	—	25.1
Montana	20.0	20.0	20.0	—	—	34.1
Nebraska*	23.8	23.8	23.8	—	Yes	37.9
Nevada	20.5	20.5	22.0	—	Yes	34.6
New Hampshire	18.0	18.0	18.0	—	—	32.1
New Jersey	10.5	4.5	13.5	—	—	24.6
New Mexico	16.2	16.2	16.2	—	Yes	30.3
New York	8.0	8.0	10.0	4.0	Yes	22.1
North Carolina*	22.3	22.3	22.3	—	—	36.4
North Dakota	17.0	17.0	17.0	—	—	31.1
Ohio*	21.0	21.0	21.0	—	—	35.1
Oklahoma	16.0	16.0	13.0	—	—	30.1
Oregon	22.0	22.0	22.0	—	Yes	36.1
Pennsylvania	12.0	12.0	12.0	6.0	—	26.1
Rhode Island*	26.0	26.0	26.0	—	—	40.1
South Carolina	16.0	10.0	16.0	—	—	30.1
South Dakota	18.0	16.0	18.0	—	Yes	32.1
Tennessee	21.4	21.4	17.4	—	Yes	35.5
Texas	20.0	20.0	20.0	—	—	34.1
Utah	19.0	19.0	19.0	—	—	33.1
Vermont	15.0	16.0	16.0	—	—	29.1
Virginia	17.7	17.7	16.2	—	Yes	31.8
Washington	23.0	23.0	23.0	—	—	37.1
West Virginia*	15.5	15.5	15.5	—	—	29.6
Wisconsin*	22.2	22.2	22.2	—	—	36.3
Wyoming	9.0	5.0	9.0	—	—	23.1

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*Variable tax expressed in cents per gal.

Source: National Highway Users Federation, as of February 1, 1992.

Net Gasoline Revenues by State (a)

(Thousands of Dollars)

State	1991 (b)	1990 (c)	1989	1988	1987	1986	1985
Alabama	353,208	351,592	295,842	273,375	269,040	252,869	245,035
Alaska	21,536	25,161	19,777	20,936	19,360	21,258	24,144
Arizona	346,732	343,677	345,977	323,549	314,240	294,210	229,543
Arkansas	273,257	214,619	214,820	203,548	198,430	197,101	169,804
California	2,105,356	1,324,202	1,295,266	1,275,415	1,258,470	1,200,981	1,140,251
Colorado	334,973	319,842	307,828	305,102	253,050	244,666	185,088
Connecticut	321,200	306,260	312,812	296,633	282,780	238,322	212,053
Delaware	74,378	64,093	65,350	62,064	52,920	41,878	39,552
Dist. of Col.	30,477	30,025	29,258	28,053	28,210	25,169	24,753
Florida	730,232	700,806	665,518	645,830	631,368	592,452	552,407
Georgia	324,061	329,095	325,957	321,118	307,425	293,307	278,403
Hawaii	55,836	45,409	43,143	41,632	41,250	39,132	32,609
Idaho	115,936	105,981	101,088	88,053	79,895	77,252	78,086
Illinois	989,543	1,058,695	810,547	720,879	726,510	672,139	639,106
Indiana	562,240	579,459	562,944	535,443	523,900	512,623	416,034
Iowa	317,211	318,122	320,812	290,321	259,925	244,149	193,555
Kansas	232,157	224,785	191,224	168,069	162,120	153,857	150,421
Kentucky	332,700	356,520	360,280	338,240	307,440	239,069	191,457
Louisiana	421,133	451,990	360,179	374,220	368,480	341,887	351,109
Maine	126,900	120,880	123,493	111,514	103,180	88,333	85,350
Maryland	425,018	443,788	446,927	441,989	378,465	309,172	290,548
Massachusetts	434,489	347,329	304,650	307,329	296,120	281,257	285,988
Michigan	665,673	667,621	667,677	671,559	883,700	648,462	625,063
Minnesota	455,711	437,039	445,611	423,688	359,380	341,399	340,704
Mississippi	292,068	281,979	266,966	246,381	174,640	136,846	129,522
Missouri	354,752	357,992	356,055	344,478	297,440	215,445	208,208
Montana	99,246	105,036	103,700	102,292	91,945	80,177	78,966
Nebraska	221,707	203,704	182,034	64,125	163,472	152,691	129,180
Nevada	154,866	149,258	140,307	127,148	95,700	78,993	71,662
New Hampshire	92,422	84,323	79,188	79,025	78,120	71,115	66,231
New Jersey	417,491	408,384	426,071	383,697	308,930	349,050	312,791
New Mexico	165,336	159,168	144,705	113,626	127,025	103,709	98,149
New York	530,591	529,459	532,240	525,277	526,230	499,707	491,730
North Carolina	843,639	832,629	679,705	607,505	572,260	488,511	405,450
North Dakota	64,877	69,354	68,612	68,268	56,940	48,648	52,242
Ohio	1,048,228	1,043,063	939,322	796,873	745,690	604,960	549,637
Oklahoma	298,241	316,439	316,569	308,751	210,200	202,212	194,567
Oregon	270,752	243,920	216,166	191,312	151,800	141,149	125,967
Pennsylvania	1,067,300	1,017,952	1,008,498	997,123	393,160	920,233	892,469
Rhode Island	102,102	83,504	73,446	66,644	63,450	55,315	48,403
South Carolina	340,159	348,037	332,982	283,115	268,880	254,450	247,003
South Dakota	75,585	80,409	78,370	70,973	57,330	51,921	51,406
Tennessee	599,881	609,942	555,845	469,316	467,880	391,857	294,541
Texas	1,536,027	1,510,797	1,508,004	1,464,164	1,463,400	1,002,272	990,886
Utah	164,454	165,741	161,345	158,724	157,886	113,435	112,265
Vermont	56,082	55,551	49,896	43,524	39,660	39,004	37,949
Virginia	590,471	612,012	600,657	597,001	572,090	441,740	400,424
Washington	549,827	538,321	453,959	440,800	430,200	406,527	399,635
West Virginia	149,921	152,335	136,745	111,192	93,975	102,883	100,947
Wisconsin	544,739	539,134	515,417	509,196	440,181	403,094	374,029
Wyoming	40,271	42,547	36,811	37,785	31,680	35,319	34,278
Total U.S.	**20,720,992**	**19,707,980**	**18,580,595**	**17,476,874**	**16,185,822**	**14,742,207**	**13,679,600**
% Change vs Preceding Period	**5.1%**	**6.1%**	**5.6%**	**6.5%**	**12.1%**	**7.7%**	**—**

(a) Does not include sales and special taxes as levied in many states; does not include "other receipts" from gasoline sales.
(b) Preliminary. (c) Revised and final.
Source: Federal Highway Administration, Selected Highway Statistics, Table SS90-2, October 1991.

Replacement Battery Sales Edge Up in 1991

Battery shipments (including both replacement and original equipment) increased by 0.8% in 1991 to a new record of 76,936,000. This is the second year shipments have gone up, following a slight decline in shipments recorded in 1989.

Battery shipments were up in the replacement market (plus 2.1%), but down for original equipment (minus 6.9%). Replacement units accounted for 86.5% of the total market in 1991, up 1% over the previous year. Replacement unit sales of 66.6-million were the best ever reported for the industry.

Replacement Battery Sales, 1991

(000)

Year	Replacements	% of Market	New Cars & Trucks	% of Market	Total Market	% Change From 1990
1991	66,585	86.5%	10,351	13.5%	76,936	0.8%
1990	65,187	85.4	11,122	14.6	76,309	2.6
1989	64,433	86.6	9,933	13.4	74,366	(0.4)
1988	63,487	85.0	11,190	15.0	74,677	5.5
1987	59,878	84.6	10,910	15.4	70,788	(1.1)
1986	60,306	84.2	11,335	15.8	71,641	1.8
1985	58,684	83.4	11,649	16.6	70,333	—
1984	59,333	84.5	10,925	15.5	70,258	5.0
1983	56,105	83.8	10,823	16.2	66,928	7.9
1982	54,214	87.4	7,819	12.6	62,033	0.8
1981	53,598	87.1	7,956	12.9	61,554	6.0
1980	50,063	86.2	8,009	13.8	58,072	(11.0)
1979	53,746	82.4	11,480	17.6	66,226	(6.2)
1977	54,601	81.2	12,639	18.8	67,240	10.8

Source: Replacement battery figures supplied by Battery Council International. New cars and trucks are U.S. factory sales figures provided by the Motor Vehicle Manufacturers Assn.

1991 Ethylene Glycol-Base Antifreeze Sales

(000 gal.)

Ethylene	**1991**	**1990**
Packaged Ethylene Glycol Antifreeze sold in:		
Quart Size	601,682	591,494
Gallon Size	86,830,960	112,084,323
Drum Size	6,228,664	8,366,800
Subtotal	**93,661,306**	**121,042,617**
Bulk Ethylene Glycol Antifreeze *(or Ethylene Glycol for antifreeze sold to packagers)*	69,410,965	60,168,356
Bulk Ethylene Glycol Antifreeze *(or Ethylene Glycol for antifreeze sold to motor vehicle manufacturers for "driveaway" or factory fill use)*	9,719,528	10,876,794
Grand Total	**172,791,799**	**192,087,767**

Source: Chemical Specialties Manufacturers Assn.

Replacement and OE Batteries

Replacement battery shipments totaled 66.6-million units in 1991, with 12-volt and 6-volt accounting for 87% of the total, according to Battery Council International. Highlights from its annual report include:

Replacement Batteries

Passenger cars and light trucks:

12-volt, 51,520,240 (89.8% of total)
6-volt, 764,969 (1.3% of total)

Heavy-duty commercial:

12-volt, 4,096,389 (7.1% of total)
6-volt, 994,103 (1.7% of total)

Original Equipment

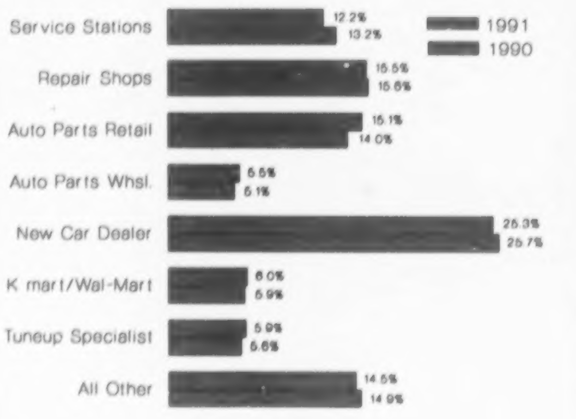
Passenger cars and light trucks:

12-volt, 8,791,937 (92.7% of total)
6-volt, 7,408 (0.78% of total)

Heavy-duty commercial:

12-volt, 677,241 (7.1% of total)
6-volt, 10,616 (.11% of total)

Where Consumers Get Tuneups



Source: Champion Spark Plug Co. tuneup survey through IMR, 1991.

Car Lubrication Service

1992 Crankcase Drain Intervals and Recommended Oil

		Normal Service		Severe Service		
Make	**Model**	**Miles**	**Months**	**Miles**	**Months**	**Type of Motor Oil**
Eagle	Turbo	5,000	6	3,000	3	SG SF/CC
	Others	7,500	6	3,000	3	SG SF/CC
Chrysler	Turbo	7,500	6	3,000	3	SG SF/CD
	Others	7,500	6	5,000	6	
Ford Motor Co.	Supercharged	5,000	6	3,000	3	SG
	Others	7,500	6	3,000	3	
General Motors	All	7,500	12	3,000	3	SG

Source: Chek-Chart Publications, Simon & Schuster Inc.

1992 Automatic Transmission/ Transaxle Drain Intervals and Recommended Fluids

Normal Service		Severe Service			
Make	**Fluid**	**Months**	**Miles**	**Months**	**Miles**
Eagle	(a)	30	30,000	—	15,000 (b)
Chrysler	Mopar ATF-Plus®	—	—	—	15,000
Ford Motor Co.	MERCON ®	—	—	—	30,000
General Motors	Dextron®-II	—	100,000	—	15,000

(a) Premier, MERCON®; others, Mopar ATF-Plus®
(b) Premier only.
Source: Chek-Chart Publications, Simon & Schuster Inc.

1992 Chassis Lubrication Intervals

(Models with Fittings)

	Normal Service		Severe Service			
Make	**Months**	**Miles**	**Months**	**Miles**	**Type**	**Part of Specification Number**
Eagle	—	—	—	—	—	—
Chrysler	36	30,000	18	15,000	#2 Barium EP	4318063
Ford Motor Co.	—	15,000	—	—	#2 Lithium EP with polyethylene 8-molybdenum disulfide	M1C75-B
General Motors	12	7,500	3	3,000	—	—

Source: Chek-Chart Publications, Simon & Schuster Inc.

U.S. Refineries & Capacities by Company

(In decending order as of January 1, 1991)

Important note: This listing includes capacity that is operational and capacity that is idle or shut down. In the latter case, this capacity can be restored to normal within 90 days. The Energy Information Administration says there were 202 operable refineries on January 1, 1991, compared with a total of 205 the preceding year. The crude distillation capacity was 15.9-million b/d, compared to 15.6-million b/d the previous year. For earlier data, see the 1991 *NPN Factbook.*

Company	b/d
Companies with a capacity of more than 100,000 b/d.	
Number of companies: 33	
Total capacity: 13,702,440	
Chevron U.S.A., Inc.	
Port Arthur, Texas	315,300
Pascagoula, Miss.	295,000
El Segundo, Calif.	254,000
Richmond, Calif.	270,000
Philadelphia, Pa.	175,000
Perth Amboy, N.J.	80,000
El Paso, Texas	66,000
Honolulu, Hawaii	52,800
Salt Lake City, Utah	45,000
Kenai, Alaska	22,000
Total	**1,575,100**
Exxon Co. U.S.A.	
Baytown, Texas	426,000
Baton Rouge, La.	421,000
Linden, N.J.	130,000
Benicia, Calif.	128,000
Billings, Mont.	42,000
Total	**1,147,000**
Shell Oil Co.	
Wood River, Ill.	274,000
Deer Park, Texas	215,900
Norco, La.	215,000
Martinez, Calif.	140,100
Carson, Calif.	120,000
Anacortes, Wash.	89,300
Odessa, Texas	28,600
Total	**1,082,900**
Amoco Oil Co.	
Texas City, Texas	433,000
Whiting, Ind.	350,000
Mandan, N.D.	58,000
Yorktown, Va.	53,000
Salt Lake City, Utah	40,000
Casper, Wyo.	40,000
Savannah, Ga.	28,000
Total	**1,002,000**
Mobil Oil Corp.	
Beaumont, Texas	275,000
Joliet, Ill.	180,000
Chalmette, La.	160,000
Torrance, Calif.	123,000
Paulsboro, N.J.	100,000
Total	**838,000**
BP America Inc.	
BP Oil Corp.	
Belle Chasse, La.	218,000
Marcus Hook, Pa.	172,000
Lima, Ohio	140,000
Toledo, Ohio	126,100
Ferndale, Wash.	77,400
Total	**733,500**
Star Enterprise	
Port Arthur/Neches, Tex.	250,000
Convent, La.	225,000
Delaware City, Del.	140,000
Total	**615,000**
U.S. Steel Corp.	
Marathon Petroleum Co.	
Garyville, La.	255,000
Robinson, Ill.	160,000
Texas City, Texas	69,500
Detroit, Mich.	70,000
Rock Island Refining Corp.	
Indianapolis, Ind.	50,000
Total	**604,500**
Sun Co Inc.	
Marcus Hook, Pa.	175,000
Toledo, Ohio	125,000
Tulsa, Okla.	85,000
Sun Refining & Marketing	
Philadelphia, Pa.	130,000
Total	**515,000**
Atlantic Richfield Co.	
Arco Petroleum Products Co.	
Los Angles, Calif.	223,000
Ferndale, Wash.	167,000
Arco Alaska Inc.	
Prudhoe Bay, Alaska	13,740
Anchorage, Alaska	12,000
Total	**415,740**
E I Du Pont De Nemours & Co.	
Conoco Inc.	
Westlake, La.	159,500
Ponca City, Okla.	140,000
Billings, Mont.	49,500
Commerce City, Colo.	48,000
Santa Maria, Calif.	9,500
Total	**406,500**
Ashland Oil Inc.	
Catlettsburg, Ky.	213,400
St. Paul, Minn.	67,100
Canton, Ohio	66,000
Total	**346,500**
Koch Industries Inc.	
Koch Refining Co.	
St. Paul, Minn.	200,000
Corpus Christi, Texas	125,000
Total	**325,000**
Texaco Refining & Marketing Inc.	
Anacortes, Wash.	130,000
El Dorado, Kan.	78,000
Wilmington, Calif.	64,000
Bakersfield, Calif.	48,000
Total	**320,000**
Citgo Petroleum Corp./ Petroleos de Venezuela	
Citgo Petroleum Corp.	
Lake Charles, La.	305,000
Total	**305,000**
Phillips 66 Co.	
Sweeny, Texas	175,000
Borger, Texas	105,000
Woods Cross, Utah	25,000
Total	**305,000**
Trans-America Natural Gas Corp.	
Norco, La.	300,000
Total	**300,000**
Lyondell Petrochemical Co.	
Houston, Texas	290,000
Total	**290,000**
Solomon Inc.	
Hill Petroleum Co.	
Texas City, Texas	119,600
Houston, Texas	70,900
Krotz Springs, La.	57,500
St. Rose, La.	34,000
Total	**282,000**

Company	b/d
The Coastal Corp.	
Coastal Eagle Point Oil Co.	
Westville, N.J.	104,500
Coastal Refining & Marketing Inc.	
Corpus Christi, Texas	85,000
Coastal Derby Refining Co.	
El Dorado, Kan.	30,400
Wichita, Kan.	28,800
Coastal Mobile Refining Co.	
Chickasaw, Ala.	26,600
Total	**275,300**
Unocal Corp.	
Wilmington, Calif.	108,000
Rodeo, Calif.	77,000
Arroyo Grande, Calif.	41,000
Total	**226,000**
Total Petroleum Inc.	
Ardmore, Okla.	68,000
Arkansas City, Kan.	56,000
Alma, Mich.	45,600
Colorado Refining Co.	
Commerce City, Colo.	28,000
Total	**197,600**
Mapco Petroleum Inc.	
North Pole, Alaska	112,800
Memphis, Tenn.	60,000
Total	**172,800**
Fina Oil & Chemical Co.	
Port Arthur, Texas	110,000
Big Springs, Texas	55,000
Total	**165,000**
Diamond Shamrock Refining & Marketing Co.	
Sunray, Texas	110,000
Three Rivers, Texas	51,000
Total	**161,000**
Kerr-McGee Corp.	
Southwestern Refining Co. Inc.	
Corpus Christi, Texas	104,000
Kerr-McGee Refining Corp.	
Wynnewood, Okla.	45,000
Cotton Valley, La.	7,800
Total	**156,800**
Crown Central Petroleum Corp.	
Pasadena, Texas	100,000
La Gloria Oil & Gas Co.	
Tyler, Texas	55,000
Total	**155,000**
Uno-Ven Co.	
Lemont, Ill.	147,000
Total	**147,000**
Tosco Corp.	
Martinez, Calif.	131,900
Total	**131,900**

Company	b/d
Petroleos de Venezuela	
Champlin Refining & Chemicals Inc.	
Corpus Christi, Texas	130,000
Total	**130,000**
Murphy Oil U.S.A. Inc.	
Meraux, La.	95,000
Superior, Wis.	33,200
Total	**128,200**
Sinclair Oil Corp.	
Sinclair, Wyo.	54,000
Tulsa, Okla.	47,000
Little America Refining Co.	
Evansville, Wyo.	24,500
Total	**125,500**
Horsham Corp.	
Clark Oil & Refining Corp.	
Blue Island, Ill.	64,600
Hartford, Ill.	57,000
Total	**121,600**

Companies with a capacity of 30,001 to 100,000 b/d.
Number of companies: 26
Total Capacity: 1,415,720

Pacific Resources Inc.	
Hawaiian Independent Refinery Inc.	
Ewa Beach, Hawaii	93,500
Total	**93,500**
Farmland Industries Inc.	
Coffeyville, Kan.	56,500
Phillipsburg, Kan.	26,400
Total	**82,900**
Arochem International Inc. (a) (*)	
Ponce, Puerto Rico	80,000
Total	**80,000**
LL&E Petroleum Marketing Inc.	
Saraland, Ala.	80,000
Total	**80,000**
National Cooperative Refinery Assn.	
McPherson, Kan.	75,600
Total	**75,600**
Tesoro Petroleum Corp.	
Kenai, Alaska	72,000
Total	**72,000**

Company	b/d
Pennzoil Products Co.	
Shreveport, La.	46,200
Rouseville, Pa.	15,700
Roosevelt, Utah	8,000
Total	**69,900**
American Ultramar Ltd.	
Ultramar Refining	
Wilmington, Calif.	66,000
Total	**66,000**
United Refining Co.	
Warren, Pa.	60,000
Total	**60,000**
The Coastal Corp./Sinochem	
Pacific Refining Co.	
Hercules, Calif.	55,000
Total	**55,000**
Indian Refining (b) (*)	
Lawrenceville, Ill.	55,000
Total	**55,000**
Lion Oil Co.	
El Dorado, Ark.	48,000
Total	**48,000**
Thrifty Oil Co.	
Golden West Refining Co.	
Santa Fe Springs, Cal.	47,000
Total	**47,000**
Paramount Acquisition Corp.	
Paramount Petroleum Corp.	
Paramount, Calif.	46,500
Total	**46,500**
Placid Refining Co.	
Port Allen, La.	46,000
Total	**46,000**
Holly Corp.	
Navajo Refining Co.	
Artesia, N.M.	38,000
Montana Refining Co.	
Great Falls, Mont.	6,700
Total	**44,700**
Sargent Holdings Ltd.	
Powerline Oil Co.	
Santa Fe Springs, Cal.	45,000
Total	**45,000**
Seaview Petroleum Inc.	
Paulsboro, N.J.	44,400
Total	**44,400**
Pride Refining Inc.	
Abilene, Texas	42,750
Total	**42,750**

Refineries

Company	b/d
Cirillo Brothers Oil Co.	
Cibro Petroleum Products Inc.	
Albany, N.Y.	41,850
Total	**41,850**
Edgington Oil Co.	
Long Beach, Calif.	41,600
Total	**41,600**
Cenex	
Laurel, Mont.	41,450
Total	**41,450**
Frontier Refining Co.	
Cheyenne, Wyo.	38,670
Total	**38,670**
Hunt Consolidated Inc.	
Hunt Refining	
Tuscaloosa, Ala.	33,500
Total	**33,500**
Time Oil Co.	
U.S. Oil & Refining Co.	
Tacoma, Wash.	32,400
Total	**32,400**
Gary Williams Co.	
Bloomfield Refining Co.	
Bloomfield, N.M.	16,800
Landmark Petroleum Inc. (c)	
Fruita, Colo.	15,200
Total	**32,000**

Companies with a capacity of 10,001 to 30,000 b/d.
Number of companies: 25
Total Capacity: 512,355

Company	b/d
Amerada Hess Corp.	
Purvis, Miss.	30,000
Total	**30,000**
Pauley Petroleum Inc.	
Fletcher Oil & Refining Co.	
Carson, Calif.	28,350
Total	**28,350**
American International Refinery Co.	
Lake Charles, La.	27,000
Total	**27,000**
Petroserve Ltd. Trifinery	
Corpus Christi, Texas	27,000
Total	**27,000**
El Paso Refining Co. Ltd.	
El Paso, Texas	25,500
Total	**25,500**
Valero Refining Co.	
Corpus Christi, Texas	25,000
Total	**25,000**
Crysen Corp.	
Crysen Refining Inc.	
Woods Cross, Utah	12,500
Sound Refining Inc.	
Tacoma, Wash.	11,900
Total	**24,400**
San Joaquin Refining Co. Inc.	
Bakersfield, Calif.	24,300
Total	**24,300**
Huntway Refining Co.	
Benica, Calif.	8,600
Wilmington, Calif.	5,500
Sunbelt Refining Co.	
Collidge, Ariz.	10,000
Total	**24,100**
Flying J Petroleum Inc.	
Big West Oil Co.	
North Salt Lake, Utah	24,000
Total	**24,000**
Kern Oil & Refining Co.	
Bakersfield, Calif.	21,400
Total	**21,400**
Indiana Farm Bureau Cooperative Assn.	
Mount Vernon, Ind.	21,200
Total	**21,200**
Leal Petroleum Corp.	
Nixon, Texas	20,900
Total	**20,900**
Ergon Inc.	
Vicksburg, Miss.	20,600
Total	**20,600**
Giant Refining Co.	
Gallup, N.M.	20,000
Total	**20,000**
Quaker State Oil Refining Corp.	
Newell, W.Va.	12,500
Smethport, Pa.	6,700
Total	**19,200**
VGS Corp.	
Southland Oil Co.	
Sandersville, Miss.	11,000
Lumberton, Miss.	5,800
Total	**16,800**
Chemoil Refining Corp.	
Long Beach, Calif.	14,200
Total	**14,200**
Calcasieu Refining Co.	
Lake Charles, La.	13,500
Total	**13,500**
CAS Refining Co. (d) (*)	
Jennings, La.	13,500
Total	**13,500**
Longview Refining Associates	
Longview, Texas	13,300
Total	**13,300**
Wyoming Refining Co.	
Newcastle, Wyo.	12,555
Total	**12,555**
World Oil Co.	
Sunland Refining Corp.	
Bakersfield, Calif.	12,000
Total	**12,000**
Grant Trading Co.	
Eco Asphalt Inc.	
Long Beach, Calif.	10,550
Total	**10,550**
Bechtel Investment Inc.	
Petro Source Resources Inc.	
Vicksburg, Miss.	6,000
Petro Source Refining Partners	
Tonopah, Nev.	4,500
Total	**10,500**

Companies with a capacity of 10,000 b/d or less.
Number of companies: 25
Total Capacity: 156,412

Company	b/d
Barrett Refining Corp.	
Thomas, Okla.	**10,500**
Anchor Refining Co. Inc. (*)	
McKittrick, Calif.	**10,000**
Sabine Resources Group	
Stonewall, La.	**10,000**
Witco Corp.	
Brandford, Penn.	**9,915**
Peerless Oil & Chemical (*)	
Ponce, Puerto Rico	**8,800**
Asphalt Materials	
Laketon Refining Corp.	
Laketon, Ind.	**8,700**

Company	b/d
Endevco Inc. **Dubach Gas Co.** Dubach, La.	8,500
Lunday Thagard Co. South Gate, Calif.	8,100
Anchor Gasoline Corp. **Canal Refining Co.** Church Point, La.	8,000
Three B Oil Co. **Rattlesnake Refining Corp.** Wickett, Texas	8,000
Claiborne Gasoline Co. Lisbon, La.	7,500
Petro Star North Pole, Ala.	7,000
Cross Oil & Refining Co. Inc. Smackover, Ark.	6,700
Young Refining Corp. Douglasville, Ga.	5,540
Somerset Refinery Inc. Somerset, Ky.	5,500
Martin Gas Sales Inc. **Berry Petroleum Co.** Stephens, Ark.	5,000
Howell Hydrocarbons Corp. San Antonio, Texas	4,500
Calumet Refining Co. Princeton, La.	4,207
Oil Holdings Inc. **Tenby Inc.** Oxnard, Calif.	4,000
Thriftway Co. Bloomfield, N.M.	4,000
Primary Oil & Energy Corp. Chester, Va.	3,700
B-T Energy Corp. **GNC Energy Corp.** Greensboro, N.C.	3,000
Crystal Refining Co. Carson City, Mich.	3,000
Inter-Coastal Energy Services Corp. Troy, Ind.	1,250
Petrolite Corp. Kilgore, Texas	1,000

Footnotes:

(*) Refinery was reactivated during 1990.

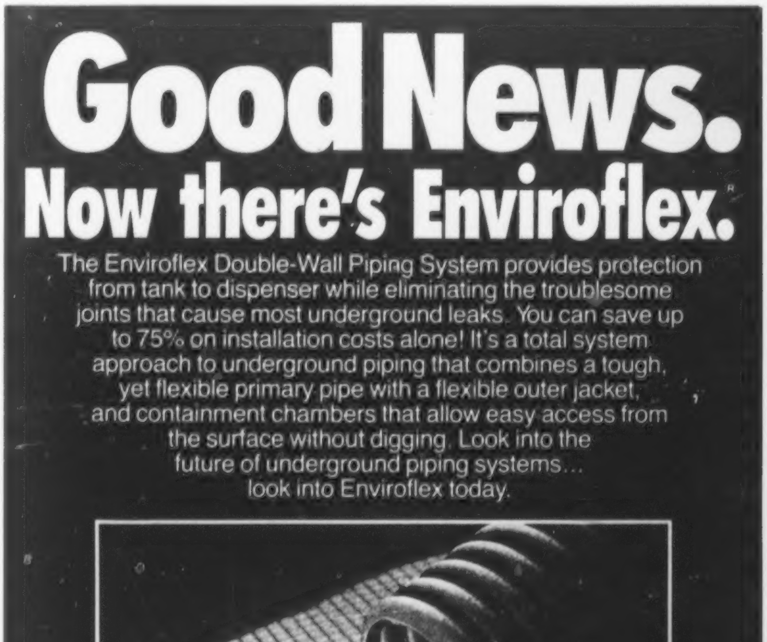
(a) Formerly Commonwealth Oil Refining Co.

(b) Formerly Western Slope Refining

(c) Formerly Gary-Williams Energy Corp./Western Slope Refining Co.

(d) Formerly Celeron Oil & Gas.

Source: Energy Information Administration, Petroleum Supply Annual 1990, Vol. 1, Table 9, May 1991.



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Lubrication Oil and Wax Capacities of U.S. Refineries

(All capacities in 000 b/d)

As of January 1, 1992

		Crude	Finished Lube Capacity					Wax Capacity	
U.S. Refineries	**Location**	**Capacity**	**A**	**B**	**C**	**D**	**Total**	**E**	**F**
Amoco Oil Co.	Whiting, Ind.	350.0	6.2				6.2	0.6	
Ashland Oil, Inc.	Catlettsburg, Ky.	205.0	8.0				8.0		2.8
Calumet Lubricants Co.	Princeton, La.	6.0					5.0		
Chevron U.S.A. Inc.	Port Arthur, Tex.	315.3	6.6	0.1			6.7		3.8
Chevron U.S.A. Inc.	Richmond, Calif.	220.0					9.4	1.2	1.0
Cit-Con Oil Corp.	Lake Charles, La.		9.2				9.2	1.0	0.8
Conoco Inc.	Ponca City, Okla.	140.0	2.3				2.3	0.3	
Cross Oil and Refining Co.,Inc.	Smackover, Ark.	7.0					4.0		
Diamond Shamrock,Inc.	Three Rivers, Tex.	53.0					1.4		
Ergon Refining, Inc.	Vicksburg, Miss.	17.0					3.3		
Exxon Co., U.S.A.	Baton Rouge, La.	421.0	16.0	0.5			16.5	1.7	
Exxon Co., U.S.A.	Baytown, Tex.	396.0	18.0		9.0		31.2		1.8
Lyondell Petrochemical Co.	Houston, Tex.	260.0					7.0		1.0
Mobil Oil Corp.	Beaumont, Tex.	275.0	10.1				10.1	1.6	0.3
Mobil Oil Corp.	Paulsboro, N.J.	100.0	8.0				8.0		
Pennzoil Products Co.	Rouseville, Pa.	16.5					4.4	0.6	0.4
Pennzoil Products Co./Atlas Processing Co.	Shreveport, La.	46.2	4.5				8.6	0.8	
Petrolite Corp.	Barnsdall, Okla.							0.4	
Petrolite Corp., Bareco Div.	Kilgore, Tex.	1.0							0.3
Petrowax PA	Emlenton, Pa.							0.9	0.1
Petrowax PA	Smethport, Pa.	5.0	0.3	0.2			0.5	1.0	0.2
Quaker State Oil Refining Corp.	Newell, W.V.	10.5					3.6		0.5
San Joaquin Refining Co., Inc.	Bakersfield, Calif.	21.0			2.4	0.5	2.9		
Shell Oil Co.	Deer Park, Tex.	215.9	4.5				9.5	1.0	
Shell Oil Co.	Martinez, Calif.	140.1			4.0		4.0		
Shell Oil Co.	Wood River, Ill.	274.0	4.0				4.0		
Star Enterprise	Port Arthur, Tex.	250.0	16.4				16.4		1.8
Sun Company, Inc.	Marcus Hook, Pa.	175.0				**			
Sun Company, Inc.	Tulsa, Okla.	85.0					8.8		2.1
Unocal	Rodeo, Calif.	73.1	4.6				4.6	0.7	1.3
Witco Chemical Corp.	Bradford, Pa.	10.0	1.6	0.9			2.5	0.2	
Witco Chemical Corp.	Oildale, Calif.	11.0			2.9	1.5	5.3		
Total		**4,184.6**	**127.8**	**1.7**	**18.3**	**2.0**	**210.9**	**12.8**	**18.2**
Canadian Refineries									
Imperial Oil Ltd.(b)	Sarnia, Ont.	126.0	5.2		0.5		5.7		2.0
Imperial Oil Ltd.(b)	Strathcona, Alb.	155.0	2.7				2.7		0.8
International Waxes, Ltd.	Agincourt, Ont.							1.0	
Petro-Canada Products	Mississuauga, Ont.	41.5					4.9		1.0
Shell Canada, Ltd.	Montreal East, Queb.	28.0	2.7				2.7		1.3
Total		**350.5**	**10.6**		**0.5**		**15.0**	**1.0**	**5.1**

Definitions: **A**-Solvent extracted paraffinic lubes; **B**-Unextracted paraffinic lubes; **C**-Solvent extracted naphthanic lubes; **D**-Unextracted unhydrotreated naphthanic lubes; **E**-Fully refinished crude scale and microcrystalline waxes; **F**-Semi-finished, slack waxes and petrolatums.

** Lube facilities out of service.

(a) Hydrotreated paraffinic and naphthenic lubes are included in total. (b) Formerly Esso Petroleum Canada.

Source: National Petroleum Refiners Assn., Lubricating Oil and Wax Capacities of U.S and Canadian Refineries, 1992.

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U.S. Refineries & Capacities by State

(Crude Oil Capacity on January 1, 1991)

An asterisk (*) after a number indicates capacity shut down, but capable of being placed in operation within 90 days.

ALABAMA

Company	b/d
Coastal Mobile Refining Co.	
Chickasaw	26,600*
Hunt Refining Co.	
Tuscaloosa	33,500
LL&E Petroleum Marketing Inc.	
Saraland	80,000
Total	**113,500** **26,600***

ALASKA

Company	b/d
Arco Alaska Inc.	
Anchorage	12,000
Prudhoe Bay	13,740
Chevron U.S.A. Inc.	
Kenai	22,000
Mapco Petroleum Inc.	
North Pole	112,800
Petro Star	
North Pole	7,000
Tesoro Petroleum Corp.	
Kenai	72,000
Total	**239,540**

ARIZONA

Company	b/d
Sunbelt Refining Co.	
Coolidge	10,000
Total	**10,000**

ARKANSAS

Company	b/d
Berry Petroleum Co.	
Stephens	5,000
Cross Oil & Refining Co. Inc.	
Smackover	6,700
Lion Oil Co.	
El Dorado	42,200 5,800*
Total	**53,900** **5,800***

CALIFORNIA

Company	b/d
Anchor Refining Co. Inc.	
McKittrick	10,000
Arco Products Co.	
Los Angeles	223,000
Chemoil Refining Corp.	
Long Beach	14,200
Chevron U.S.A. Inc.	
El Segundo	254,000
Richmond	270,000
Conoco Inc.	
Santa Maria	9,500
Eco Asphalt Inc.	
Long Beach	10,550*
Edgington Oil Co. Inc.	
Long Beach	41,600*
Exxon Co. U.S.A.	
Benicia	128,000
Fletcher Oil & Refining Co.	
Carson	28,350
Golden West Refining Co.	
Santa Fe Springs	47,000
Huntway Refining Co.	
Benicia	8,600
Wilmington	5,300
Kern Oil & Refining Co.	
Bakersfield	21,400
Lunday Thagard Co.	
South Gate	8,100
Mobil Oil Corp.	
Torrance	123,000
Pacific Refining Co. Inc.	
Hercules	55,000
Paramount Petroleum Corp.	
Paramount	46,500
Powerine Oil Co.	
Santa Fe Springs	30,000 15,000*
San Joaquin Refining Co. Inc.	
Bakersfield	24,300*
Shell Oil Co.	
Carson	120,000
Martinez	140,100
Sunland Refining Corp.	
Bakersfield	12,000
Tenby Inc.	
Oxnard	4,000
Texaco Refining & Marketing Inc.	
Bakersfield	48,000
Wilmington	64,000
Tosco Corp.	
Martinez	131,900
Ultramar Refining	
Wilmington	66,000
Unocal Corp.	
Arroyo Grande	41,000
Rodeo	77,000
Wilmington	108,000
Witco Corp.	
Oildale	0
Total	**2,094,150** **91,450***

COLORADO

Company	b/d
Colorado Refining Co.	
Commerce City	28,000
Conoco Inc.	
Commerce City	48,000
Landmark Petroleum Inc. **(Formerly Gary-Williams Energy Corp./Western Slope Refining Co.)**	
Fruita	15,200*
Total	**76,000** **15,200***

DELAWARE

Company	b/d
Star Enterprise	
Delaware City	140,000
Total	**140,000**

GEORGIA

Company	b/d
Amoco Oil Co.	
Savannah	28,000*
Young Refining Corp.	
Douglasville	5,540
Total	**5,540** **28,000***

HAWAII

Company	b/d
Chevron U.S.A. Inc.	
Honolulu	52,800
Hawaiian Independent Refinery Inc.	
Ewa Beach	93,500
Total	**146,300**

ILLINOIS

Company	b/d
Clark Oil & Refining Corp.	
Blue Island	64,600
Hartford	57,000
Indian Refining **(Formerly Texaco Refining & Marketing Inc.)**	
Lawrenceville	55,000
Marathon Petroleum Co.	
Robinson	160,000
Mobil Oil Corp.	
Joliet	180,000
Shell Oil Co.	
Wood River	274,000
Uno-Ven Co.	
Lemont	147,000
Total	**937,600**

INDIANA

Company	b/d
Amoco Oil Co.	
Whiting	350,000
Indiana Farm Bureau Cooperative Assn.	
Mount Vernon	21,200
Inter-Coastal Energy Services Corp.	
Troy	1,250*
Laketon Refining Corp.	
Laketon	8,700

Company	b/d
Rock Island Refining Corp.	
Indianapolis	50,000
Total	**429,900** **1,250***

KANSAS

Company	b/d
Coastal Derby Refining Co.	
Augusta	0
El Dorado	30,400
Wichita	28,800
Farmland Industries Inc.	
Coffeyville	56,500
Phillipsburg	26,400
National Cooperative Refinery Assn.	
McPherson	75,600
Texaco Refining & Marketing Inc.	
El Dorado	78,000
Total Petroleum Inc.	
Arkansas City	56,000
Total	**351,700**

KENTUCKY

Company	b/d
Ashland Oil Inc.	
Catlettsburg	213,400
Somerset Refinery Inc.	
Somerset	5,500
Total	**218,900**

LOUISIANA

Company	b/d
American International Refinery Inc.	
Lake Charles	27,000*
BP Oil Corp.	
Belle Chase	218,000
Calcasieu Refining Co.	
Lake Charles	13,500
Calumet Refining Co.	
Princeton	4,207
Canal Refining Co.	
Church Point	8,000
CAS Refining Co. (Formerly Celeron Oil & Gas)	
Jennings	13,500*
Citgo Petroleum Corp.	
Lake Charles	305,000
Claiborne Gasoline Co.	
Lisbon	7,500
Conoco Inc.	
Westlake	159,500
Dubach Gas Co.	
Dubach	8,500
Exxon Co. U.S.A.	
Baton Rouge	421,000
Hill Petroleum Co.	
Krotz Springs	57,500
St. Rose	34,000
Kerr-McGee Refining Corp.	
Cotton Valley	7,800
Marathon Petroleum Co.	
Garyville	255,000
Mobil Oil Corp.	
Chalmette	160,000
Murphy Oil U.S.A. Inc.	
Meraux	95,000
Pennzoil Products Co.	
Shreveport	46,200
Placid Refining Co.	
Port Allen	46,000
Sabine Resources Group	
Stonewall	10,000*
Shell Oil Co.	
Norco	215,000
Star Enterprise	
Convent	225,000
Trans America Refining Co.	
Norco	300,000*
Total	**2,286,707** **340,500***

MARYLAND

Company	b/d
Chevron U.S.A. Inc.	
Baltimore	0
Total	**0**

MICHIGAN

Company	b/d
Crystal Refining Co.	
Carson City	3,000
Marathon Petroleum Co.	
Detroit	68,500
Total Petroleum Inc.	
Alma	45,600
Total	**117,100**

MINNESOTA

Company	b/d
Ashland Oil Inc.	
St. Paul	67,100
Koch Refining Co.	
St. Paul	200,000
Total	**267,100**

MISSISSIPPI

Company	b/d
Amerada Hess Corp.	
Purvis	30,000
Chevron U.S.A. Inc.	
Pascagoula	295,000
Ergon Refining Inc.	
Vicksburg	20,600
Petro Source Resources Inc.	
Vicksburg	6,000*
Southland Oil Co.	
Lumberton	5,800
Sandersville	11,000
Total	**362,400** 6,000*

MONTANA

Company	b/d
Cenex	
Laurel	41,450
Conoco Inc.	
Billings	49,500
Exxon Co. U.S.A.	
Billings	42,000
Montana Refining Co.	
Great Falls	6,700
Total	**139,650**

NEVADA

Company	b/d
Petro Source Refining Partners	
Tonopah	4,500*
Total	4,500*

NEW JERSEY

Company	b/d
Amerada Hess Corp.	
Port Reading	0
Chevron U.S.A. Inc.	
Perth Amboy	80,000*
Coastal Eagle Point Oil Co.	
Westville	104,500
Exxon Co. U.S.A.	
Linden	130,000
Mobil Oil Corp.	
Paulsboro	100,000
Seaview Petroleum Inc.	
Paulsboro	44,400*
Total	**334,500** 124,400*

NEW MEXICO

Company	b/d
Bloomfield Refining Co.	
Bloomfield	16,800
Giant Refining Co.	
Gallup	19,000
Navajo Refining Co.	
Artesia	38,000
Thriftway Co.	
Bloomfield	4,000*
Total	**74,800** 4,000*

NEW YORK

Company	b/d
Cibro Petroleum Products Inc.	
Albany	41,850
Total	**41,850**

NORTH CAROLINA

Company	b/d
GNC Energy Corp.	
Greensboro	3,000
Total	**3,000**

NORTH DAKOTA

Company	b/d
Amoco Oil Co.	
Mandan	58,000
Total	**58,000**

OHIO

Company	b/d
Ashland Oil Inc.	
Canton	66,000
BP Oil Co.	
Lima	140,000
Toledo	126,100
Sun Co. Inc.	
Toledo	125,000
Total	**457,100**

OKLAHOMA

Company	b/d
Barrett Refining Corp.	
Thomas	10,500
Conoco Inc.	
Ponca City	140,000
Kerr-McGee Refining Corp.	
Wynnewood	45,000
Sinclair Oil Corp.	
Tulsa	47,000

Company	b/d
Sun Co. Inc.	
Tulsa	85,000
Total Petroleum Inc.	
Ardmore	68,000
Total	**395,500**
OREGON	
Chevron U.S.A. Inc.	
Willbridge	0
PENNSYLVANIA	
BP Oil Corp.	
Marcus Hook	172,000
Chevron U.S.A. Inc.	
Philadelphia	175,000
Pennzoil Products Co.	
Rouseville	15,700
Quaker State Oil Refining Corp.	
Smethport	6,700
Sun Co. Inc.	
Marcus Hook	175,000
Sun Refining & Marketing	
Philadelphia	130,000
United Refining Co.	
Warren	60,000
Witco Corp.	
Bradford	9,915
Total	**744,315**
TENNESSEE	
Mapco Petroleum Inc.	
Memphis	60,000
Total	**60,000**
TEXAS	
Amoco Oil Co.	
Texas City	433,000
Champlin Refining & Chemical Inc.	
Corpus Christi	130,000
Chevron U.S.A. Inc.	
El Paso	66,000
Port Arthur	315,300
Coastal Refining & Marketing Inc.	
Corpus Christi	85,000
Crown Central Petroleum Corp.	
Pasadena	100,000
Diamond Shamrock Refining & Marketing Co.	
Sunray	110,000
Three Rivers	51,000
El Paso Refining Co. Ltd.	
El Paso	25,500
Exxon Co. U.S.A.	
Baytown	426,000
Fina Oil & Chemical Co.	
Big Springs	55,000
Port Arthur	110,000
Hill Petroleum Co.	
Houston	70,900
Texas City	119,600
Howell Hydrocarbons Corp.	
San Antonio	1,500
	3,000*
Koch Refining Co.	
Corpus Christi	125,000
La Gloria Oil & Gas Co.	
Tyler	55,000
Leal Petroleum Corp.	
Nixon	15,900
	5,000*
Longview Refining Associates	
Longview	13,300
Lyondell Petrochemical Co.	
Houston	290,000
Marathon Petroleum Co.	
Texas City	69,500
Mobil Oil Corp.	
Beaumont	275,000
Petrolite Corp.	
Kilgore	1,000
Phillips 66 Co.	
Borger	105,000
Sweeny	175,000
Pride Refining Inc.	
Abilene	28,500
	14,250*
Rattlesnake Refining Corp.	
Wickett	8,000*
Shell Oil Co.	
Deer Park	215,900
Odessa	28,600
South Hampton Refining Co.	
Silsbee	0
Southwestern Refining Co. Inc.	
Corpus Christi	104,000
Star Enterprise	
Port Arthur/Port Neches	250,000
Trifinery	
Corpus Christi	27,000*
Valero Refining Co.	
Corpus Christi	25,000
Total	**3,875,500**
	57,250*
UTAH	
Amoco Oil Co.	
Salt Lake City	40,000
Big West Oil Co.	
North Salt Lake	24,000
Chevron U.S.A. Inc.	
Salt Lake City	45,000
Crysen Refining Inc.	
Woods Cross	12,500
Pennzoil Products Co.	
Roosevelt	8,000
Phillips 66 Co.	
Woods Cross	25,000
Total	**154,500**
VIRGINIA	
Amoco Oil Co.	
Yorktown	53,000
Primary Oil & Energy Corp.	
Chester	3,700
Total	**56,700**
WASHINGTON	
Arco Products Co.	
Ferndale	167,000
BP Oil Corp.	
Ferndale	77,400
Chevron U.S.A. Inc.	
Richmond Beach	0
Shell Oil Co.	
Anacortes	89,300
Sound Refining Inc.	
Tacoma	11,900*
Texaco Refining & Marketing Inc.	
Anacortes	130,000
U.S. Oil & Refining Co.	
Tacoma	32,400
Total	**496,100**
	11,900*
WEST VIRGINIA	
Quaker State Oil Refining Corp.	
Newell	12,500
Total	**12,500**
WISCONSIN	
Murphy Oil U.S.A. Inc.	
Superior	33,200
Total	**33,200**
WYOMING	
Amoco Oil Co.	
Casper	40,000
Frontier Refining Co.	
Cheyenne	38,670
Little America Refining Co.	
Evansville	24,500
Sinclair Oil Corp.	
Sinclair	54,000
Wyoming Refining Co.	
Newcastle	12,555
Total	**169,725**
PUERTO RICO	
Arochem International Inc. (Formerly Commonwealth Oil Refining Co.)	
Ponce	80,000
Caribbean Gulf Refining Corp.	
San Juan	36,000
Peerless Oil & Chemical	
Ponce	8,800
Phillips Puerto Rico Core Inc.	
Guayama	0
Sun Co. Inc.	
Yabucoa	85,000
Total	**209,800**
VIRGIN ISLANDS	
Amerada Hess Corp.	
St. Croix	470,000
Total	**470,000**

Source: Energy Information Administration, Petroleum Supply Annual 1990, Vol. 1, Table 38, May 1991.

Changes in U.S. Refinery Capacity in 1990

On Jan. 1, 1991, the United States had a total of 202 operable refineries. There were six shutdowns in 1990 and three refineries were reactivated in the U.S. (along with two refineries in Puerto Rico). Operable capacity was pegged at 15.9-million b/d, up from 15.6-million b/d the previous year.

The increase substantiated industry indications that large losses of previous years have been subdued, if not reversed.

Reactivated Refineries in 1990

Refinery	Location	Total Atmospheric Crude Oil Distillation Capacity (b/cd)	Total Downstream Charge Capacity (b/sd)	Date Shut Down	Date Reactivated
Anchor Refining	McKittrick, Calif.	10,000	6,000	2/84	4/90
CAS Refining Co.	Jennings, La.	13,500	0	6/83	6/90
Indian Refining	Lawrenceville, Ill.	55,000	125,000	2/87	8/90
Total U.S. Reactivated		**78,500**	**131,000**		
Arochem International	Ponce, PR	80,000	0	7/83	2/90
Peerless Oil & Chemical	Ponce, PR	8,800	0	8/82	2/90
Total Puerto Rico Reactivated		**88,800**	**0**		

Refinery Shutdowns in 1990

Refinery	Location	Total Atmospheric Crude Oil Distillation Capacity (b/cd)	Total Downstream Charge Capacity (b/sd)	Date Shut Down
Eagle Refining	Jackson, Texas	1,800	1,800	10/90
Gibson Oil & Refining	Bakersfield, Calif.	9,600	0	12/90
Imron Refining Inc.	San Leon, Texas	7,000	0	8/90
Phoenix Refining Co.	St. Mary's W. Va.	19,200	4,200	1/91
Sabine Resources Group	Stonewall, La.	10,000	0	12/90
Vulcan Refining	Cordova, Ala.	9,500	5,000	12/90
Total U.S. Shut Down		**57,100**	**11,000**	

Refinery Sales in 1990

Former Owner	Location	Capacity (b/cd)	Total Atmospheric Crude Oil Distillation New Owner	Date of Sale
Calcasieu Refining	Lake Charles, La.	13,500	Transworld Oil USA, Inc.	8/90
Gary-Williams Energy Corp./ Western Slope Refining Co.	Fruita, Calif.	15,200	Landmark Petroleum, Inc.	12/90
Quaker State Oil Refining	Bradford, Pa.	6,700	U.S. Petroleum Corp./ Petrowax Pennsylvania, Inc.	5/90
Sargent Holdings	Santa Fe Springs, Calif.	45,000	Powerine Oil Co.	6/90

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b/cd = barrels per calendar day

b/sd = barrels per stream day

Source: Energy Information Administration, Petroleum Supply Annual 1990, Vol. 1, Tables 46 and 47, May 1991.

Fewer Refineries, But More Capacity in 1990

The total number of refineries operating in the United States dropped slightly at the beginning of 1991, but this had no consequential impact on the petroleum industry's operable refinery capacity, which actually edged up by approximately 104,000 b/d.

According to the Energy Information Administration (EIA), there was a total of 202 operating plants in the United States as of Jan. 1, 1991, three less than in the number of operating plants in the year earlier period. Six refineries were completely shut down in 1990, and three were reactivated.

Utilization rates for operable capacity averaged 87.1% in 1990, up from 86.3% during the prior year, EIA reports. Gross inputs to crude distillation units increased 0.4% from the previous year to approximately 13.6-million b/d. Idle capacity was down to 12.9% and excess volume declined to slightly under 2-million b/d, according EIA.

Operable Refineries

(As of January 1 of each year)

Year	No. of refineries	Change from preceding year	Operable Capacity	Change from preceding year
1991	202	-3	15,676	+104
1990	205	+1	15,572	-83
1989	204	-9	15,655	-251
1988	213	-6	15,916	+350
1987	219	+3	15,566	+107
1986	216	-7	15,459	-200
1985	223	-24	15,659	-478
1984	247	-11	16,137	-722
1983	258	-43	16,859	-1,030
1982	301	-23	17,890	-731
1981	324	+5	18,621	+632
1980	319	+8	17,989	+547

Source: Energy Information Administration, Petroleum Supply Annual 1990, Vol. 1, Table FE1, May 1991.

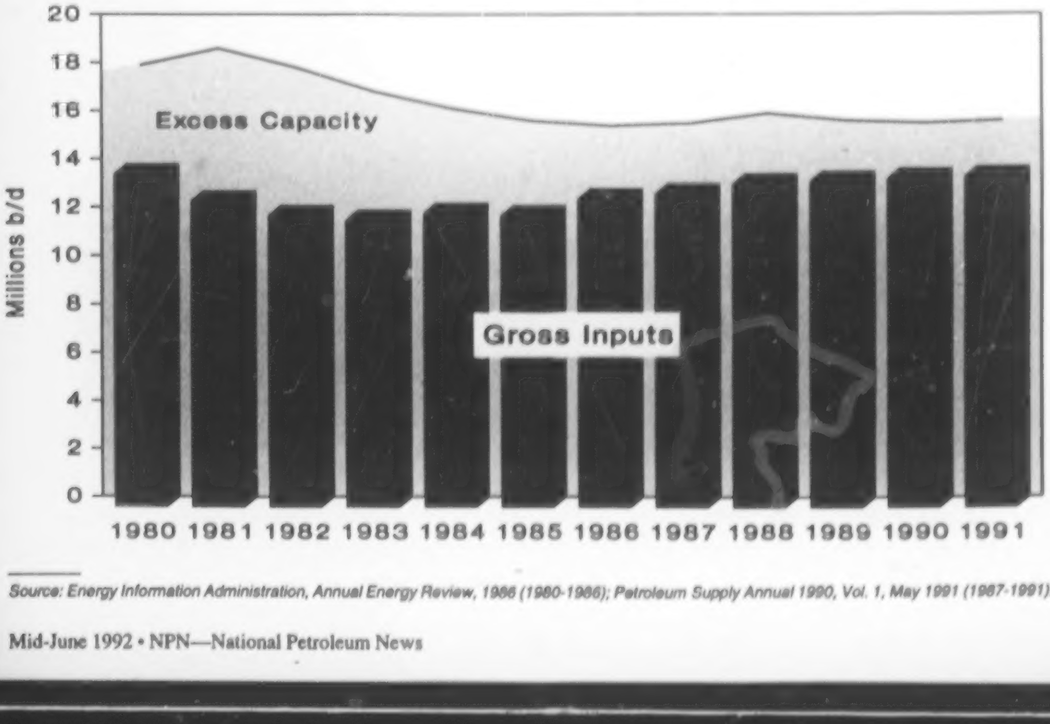
Inputs and Utilization

(Average for calendar year)

Year	Gross Input	Percent Utilized	Percent Idle	Excess Volume
1990(a)(b)	13,600	87.1%	12.9%	1,972
1989(b)	13,563	86.3	13.7	2,092
1988	13,477	84.4	15.6	2,459
1987	13,003	83.1	16.9	2,690
1986	12,826	83.0	17.0	2,633
1985	12,165	77.6	22.6	3,494
1984	12,216	76.2	23.8	3,921
1983	11,947	71.7	28.3	4,912
1982	12,172	69.8	30.2	5,718
1981	12,751	68.5	31.5	5,870
1980	13,834	76.9	23.1	4,153

(a) 1991 data not available.
(b) Revised.
Source: Energy Information Administration, Petroleum Supply Annual 1990, Vol. 1, May 1991.

Gross Inputs and Excess Capacity



Source: Energy Information Administration, Annual Energy Review, 1986 (1980-1986); Petroleum Supply Annual 1990, Vol. 1, May 1991 (1987-1991).

Shell Storage Capacity, 1990 (a)

(000 bbl.)

		Gasoline			Fuel Oil				
	Crude Oil	Finished Leaded	Finished Unleaded	Blending Components	Middle Distillates	Residual Fuel Oil	Asphalt and Road Oil	Total Products (b)	Total Crude Oil and Products
PAD District 1									
New Jersey	9,115	61	9,422	5,578	13,834	5,140	1,986	47,931	57,046
Pennsylvania	10,840	379	4,143	3,541	4,272	2,309	1,691	29,703	40,543
Other States (c)	5,848	41	5,776	2,234	9,172	4,328	1,965	29,379	35,227
Total	25,803	481	19,341	11,353	27,278	11,777	5,642	107,013	132,816
PAD District 2									
Illinois	7,978	290	6,886	5,088	5,964	1,766	1,919	39,945	47,923
Indiana	2,892	253	4,990	3,105	4,073	1,537	1,517	25,940	28,832
Kansas	2,725	1,701	3,196	1,639	3,431	398	1,141	19,913	22,638
Ohio	3,757	385	2,252	2,923	1,836	421	829	15,440	19,197
Oklahoma	3,722	1,289	2,991	2,498	3,411	298	1,646	22,151	25,873
Other States (c)	6,945	352	5,071	3,419	6,396	1,767	5,099	31,630	38,575
Total	28,019	4,270	25,386	18,672	25,111	6,187	12,151	155,019	183,038
PAD District 3									
Alabama	2,279	91	680	305	930	520	665	4,780	7,059
Arkansas	2,022	0	420	109	518	82	632	2,493	4,515
Louisiana	29,659	171	8,732	11,406	15,502	7,217	1,649	89,708	119,367
Mississippi	5,921	0	2,600	2,071	3,578	846	1,068	17,699	23,620
New Mexico	990	126	343	575	531	89	429	3,913	4,903
Texas	56,055	1,085	27,256	22,267	23,323	11,503	3,294	220,276	276,331
Total	96,926	1,473	40,031	36,733	44,382	20,257	7,737	338,869	435,796
PAD District 4									
Colorado	718	296	513	592	535	480	478	4,010	4,728
Montana	1,519	511	795	1,851	1,005	172	1,933	8,355	9,874
Utah	1,472	343	763	1,256	997	204	508	6,045	7,517
Wyoming	973	592	911	1,482	1,682	825	1,547	8,470	9,443
Total	4,682	1,742	2,982	5,181	4,219	1,681	4,466	26,880	31,562
PAD District 5									
Alaska	1,132	115	345	355	802	1,168	89	3,841	4,973
California	32,125	2,713	10,295	13,689	8,281	10,403	3,373	101,912	134,037
Washington	8,620	1,032	1,664	2,613	2,357	1,499	351	16,338	24,958
Other States (c)	3,928	9	437	701	553	1,615	758	5,864	9,792
Total	45,805	3,869	12,741	17,358	11,993	14,685	4,571	127,955	173,760
U.S. Total	**201,235**	**11,835**	**100,481**	**89,297**	**112,983**	**54,587**	**34,567**	**755,736**	**956,971(d)**

Working Storage Capacity, 1990 (a)

(000 bbl.)

		Gasoline			Fuel Oil				
	Crude Oil	Finished Leaded	Finished Unleaded	Blending Components	Middle Distillates	Residual Fuel Oil	Asphalt and Road Oil	Total Products (b)	Total Crude Oil and Products
PAD District 1									
New Jersey	7,898	57	7,980	4,744	12,500	4,240	1,776	41,726	49,624
Pennsylvania	9,463	324	3,619	3,096	3,805	2,076	1,493	26,575	36,038
Other States (c)	5,125	36	5,001	2,003	6,717	3,883	1,860	24,888	30,013
Total	22,486	417	16,600	9,843	23,022	10,199	5,129	93,189	115,675
PAD District 2									
Illinois	7,077	283	6,058	4,590	5,553	1,636	1,812	35,976	43,053
Indiana	2,426	224	4,000	2,586	3,666	1,410	1,332	22,714	25,140
Kansas	2,506	1,618	2,911	1,464	3,236	364	1,086	18,504	21,010
Ohio	3,346	310	1,898	2,438	1,660	324	769	13,568	16,914
Oklahoma	3,186	1,126	2,687	2,355	3,117	268	1,478	19,995	23,181
Other States (c)	6,233	322	4,638	3,127	6,067	1,649	4,697	29,292	35,525
Total	24,774	3,883	22,192	16,560	23,299	5,651	11,174	140,049	164,823
PAD District 3									
Alabama	1,911	91	580	288	804	406	543	4,049	5,960
Arkansas	1,747	0	379	98	467	74	577	2,255	4,002
Louisiana	23,647	146	7,326	9,109	13,161	6,200	1,404	76,195	99,842
Mississippi	5,246	0	2,402	1,968	3,305	795	913	16,320	21,566
New Mexico	877	117	302	525	477	82	418	3,446	4,323
Texas	47,255	925	23,924	19,613	21,144	10,329	3,019	194,163	241,418
Total	80,683	1,279	34,913	31,601	39,358	17,886	6,874	296,428	377,111
PAD District 4									
Colorado	688	273	472	542	508	457	463	3,759	4,447
Montana	1,283	431	697	1,636	930	156	1,767	7,485	8,768
Utah	1,263	308	649	1,128	930	188	498	5,483	6,746
Wyoming	917	545	839	1,375	1,597	787	1,510	7,995	8,912
Total	4,151	1,557	2,657	4,681	3,965	1,588	4,238	24,722	28,873
PAD District 5									
Alaska	1,065	108	326	334	767	1,119	86	3,655	4,720
California	27,027	2,273	8,876	12,003	7,367	9,168	3,041	90,649	117,676
Washington	7,748	947	1,494	2,350	2,166	1,388	339	14,823	22,571
Other States (c)	3,432	8	412	655	515	1,534	722	5,512	8,944
Total	39,272	3,336	11,108	15,342	10,815	13,209	4,188	114,639	153,911
U.S. Total	**171,366**	**10,472**	**87,470**	**78,027**	**100,459**	**48,533**	**31,603**	**669,027**	**840,393(e)**

(a) **Shell Storage Capacity**–design capacity of the tank; **Working Storage Capacity**–difference in volume between the maximum safe fill capacity and tank bottom. (b) All other products include ethane, isobutane, pentanes, plus other hydrocarbons, hydrogen, alcohol, unfinished oils, finished aviation gasoline, special naphthas, wax, petroleum coke, still gas, petrochemical feedstocks and miscellaneous products. (c) Other states include: **Pad Dist. 1:** Connecticut, Delaware, Florida, Georgia, Maryland, Massachusetts, New York, North Carolina, Virginia, West Virginia; **Pad Dist. 2:** Kentucky, Michigan, Minnesota, Missouri, North Dakota, Tennessee, Wisconsin; **Pad Dist. 5:** Arizona, Hawaii, Nevada, Oregon. (d) Includes 21,574 thousand bbl. of storage capacity at shutdown refineries and shutdown gasoline blending plants, and 46,747 thousand bbl. of stor. cap. at operating gasoline blending plants. (e) Includes 19,071 thousand bbl. of stor. cap. at shutdown refineries and shutdown gasoline blending plants, and 40,966 thousand bbl. of storage capacity at operating gasoline blending plants.

Source: Energy Information Administration, Petroleum Supply Annual 1990, Vol. 1, Table 43, May 1991.

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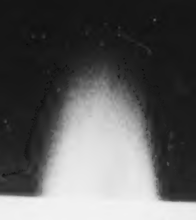
JULY 1992 $7.00

NATURAL GAS

- *Dawn of a New Era*
- *Cardlocks and CNG*

Merchandising Snacks

Waring Oil



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Editor's Viewpoint

What is a natural gas flame doing on the cover of a news journal in the petroleum marketing industry?

At first glance, it would seem that this symbolic representation of the natural gas industry would be more appropriate as a cover illustration for one of the journals serving that sector of the energy market. I realize, too, that giving such a big play in our *NPN* pages to a product that has been a no-holds-barred competitor (to say the least) to fuel oil marketers will be disconcerting to readers involved in that business.

But we can't turn back the clock, either at *NPN* or in the petroleum marketing industry. Natural gas, like it or not, is at the threshold of becoming a major force in energy markets throughout the world.

As West editor Mark Emond notes in this month's cover report, the natural gas industry is being decontrolled, and the government is apparently determined "to propel gas into a much enlarged energy future—into the transportation future, too."

Why the big push behind natural gas? It's certainly getting plenty of attention these days, more so than other alternative fuels. There are good reasons for this, including abundant supplies and an in-place production and distribution network. As Mark points out in his report, domestic reserves of crude oil are declining and prospects are not good, while domestic reserves of natural gas are rising and "the future is bright."

Natural gas is benefiting greatly from deregulation and the "unbundling" of outmoded marketing practices. New players—independent marketers, brokers, pipeline and producer affiliates—are jumping into the field at an accelerated pace. Most of all, environmental concerns and other factors are opening up new opportunities for petroleum marketers, as you will see from the reports filed by Mark and staff reporter Phil Shook in this issue.

Some would argue that oil and gas don't mix well in a marketing sense. Nonsense! Savvy marketers know they're not just in the petroleum supply business; they're in the transportation fuel business and the future lies in developing the right mix of different fuels that customers—and the U.S. government—will require. Petroleum will continue to be a mainstay of the transportation fuel industry, but so too, apparently, will natural gas.

A warm welcome, please, for our new East editor, George Schultz. We are fortunate in having George available to step into this important assignment, where he succeeds J. Richard Shaner, our longtime East editor who passed away on April 26 [*NPN*—June '92, p3]. I'm sure many of you already know George. An award-winning journalist, he has 25 years of experience in business journalism; 14 of those with one of our sister publications, *Fuel Oil News*. George also founded another sister magazine, *Petroleum/C-Store Products*, in 1979. George brings a wealth of experience to his new assignment, and I'm confident he will be an outstanding addition to our *NPN* staff.

—Don Smith

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NATIONAL PETROLEUM NEWS

July 1992 Vol. 84 No. 8

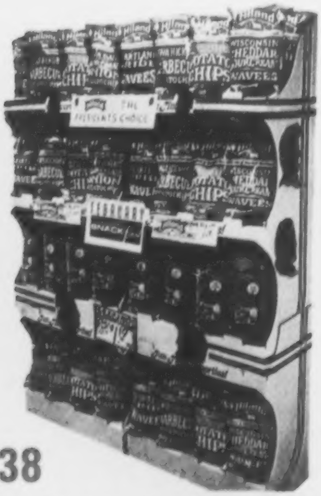
FEATURES

COVER REPORT
Natural gas:
The dawn of a new era
By Mark Emond 28

COVER REPORT—2
Cardlocks and CNG:
A natural fit
By Phil Shook 35

MARKETING
'Healthy' or traditional snacks maintain their customer appeal
By Steve Dwyer 38

MANAGEMENT
Mastering trends keeps Waring Oil out in front
By Angel Abcede 42


38

Snack foods grow in popularity more each year, as sales figures will attest.

Cover Photo Courtesy ENTRADE CORP.

DEPARTMENTS

Editor's Viewpoint 3
Ahead of the News 7
Top of the News 8
Catching Up 9
Trends & Marketplace 10
Regions
- Midwest 12
- South 13
- East 14
- West 16

General News 19
- Clean-air regs threaten U.S. refining industry
- CNG conversion testing center opened in Texas
- Unocal won't supply Calif. diesel fuel, Chevron will
- 'Free' car wash too costly, says dealer
- Study underway to determine consumer perceptions of C-stores

About Oil People 49
Letters to the Editor 54
Product Showcase 56
Coming Meetings 62
Briefs 64
Classified Advertising 65

COLUMNS

C-Store Opportunities
Making 'fully integrated' POS work
By Chuck Lawson 26

Operations Management
Planning for unattended service
By Howard Upton 46

Legal Tips for Marketers
Amortization of intangibles
By Sam Borenkind 52

Marketer's Tax Corner
Recession—A window of opportunity
By Irving L. Blackman 60

• TRENDS

Competition May Speed Up Electric Car Plans

That little speck on the horizon that has represented electric motor vehicles is looming larger, much larger. Skeptics will have to reconsider. A competition is growing between the United States and Japan to develop and market electric vehicles. (For another view, see *NPN*—March '92, p10.)

In Japan, it's the government that's providing leading economic support, which means it's serious business. In the United States, it's a consortium of private and public agencies, although it might not be long before the U.S. government sees the threat and decides to play a more active role, which it is already playing in automotive battery development.

The latest event is the creation of Calstart, a coalition of 41 utility, industry, government, education, labor and environmental organizations in California. Headquarters is Lockheed's 155,000-sq.ft. Burbank stealth fighter plant in Los Angeles, rent free for two years.

California is a logical place for this activity because it is the home of many aerospace and other high-tech companies and because introduction of 40,000 emission-free vehicles is mandated in the state annually beginning in 1998, and 200,000 annually by the year 2003. Emission-free means electric, barring an unforeseen breakthrough.

Among Calstart members are electric utilities of Los Angeles, San Francisco and San Diego; Lockheed; Allied-Signal Aerospace; Fairchild; General Motors; Hughes Aircraft; Kaiser Aluminum, Pirelli Armstrong tires; four municipal airports; the state of California; UCLA; UC-Davis; Lawrence Livermore National Laboratory; and Electric Power Research Institute.

Only a few months in formation, Calstart raised $14-million by early June and sought another $6-million to fund seven development projects in the next six years. Estimating the world market to be 850,000 vehicles in the year 2000, Calstart is shooting for 300,000 of it. Among the group's objectives are developing an advanced electric vehicle for worldwide marketing and a short-range neighborhood electric car.

In a project already a couple of years old, Japan's Ministry of International Trade and Industry (MITI), arguably the seat of the Japanese government, plans to have 200,000 electric vehicles on the road in Japan in the year 2000, together with a network of 2,000 charging and service stations, according to the Japan Management Institute's Marketing Data Bank (JMAR-MDB), the largest provider of business information in Japan, with an overseas office in San Diego.

MITI's program converts utilities, industries and agencies in stages to electric vehicles with tax breaks and direct government aid, culminating after the year 2000 in use of electric vehicles in all sectors.

MITI is working in four stages: 1991-'93, direct government aid and tax breaks to encourage use of electric vehicles by local firms and agencies; 1994-'97, utility and industry partial conversion to electric vehicles; 1998-2000, focus on public use, with heavy research to reduce the cost of production and improve service technologies; 2001+, transformation of Japan into a society using electric vehicles in all sectors.

On the battery front, the U.S. Advanced Battery Consortium, supported by the U.S. Dept. of Energy, recently chose the nickel metal hydride technology for accelerated development, calling it the beginning of a new phase in automotive history. Recharge time is said to be 15 minutes, compared with eight hours or more for conventional lead-acid batteries. Batteries supposedly would last the life of the car.

Membership includes GM, Ford, Chrysler and the Electric Power Research Institute. The consortium plans to make electric vehicles cost-competitive with gasoline-powered cars by the late 1990s.

Nobody imagines electricity dethroning gasoline in auto transportation, at least foreseeably, but with almost two-thirds of urban smog created by cars and trucks, the surge to convert to electric vehicles—if they prove out—might be surprising.

—Mark Emond

• MARKETPLACE AT A GLANCE

AVERAGE GASOLINE PRICES IN THE U.S. (per gal.)

APRIL	Gasoline (All types)	Unleaded Regular	Unleaded Premium
U.S. City Avg.	$1.143	$1.079	$1.268
Regions			
Northeast	1.177	1.092	1.317
North Central	1.108	1.066	1.234
South	1.120	1.046	1.232
West	1.189	1.137	1.314

**Data no longer collected or available on leaded regular.*

Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

STOCKS (Add 000 bbl.)

	5/30/91	5/29/92
Gasoline (Total)	216,378	214,369
Unleaded*	176,455	174,642
Jet Kerosine	35,481	39,132
Distillates	93,327	93,321
Residual	38,433	40,481

**Leaded regular prices no longer collected by Bureau of Labor Statistics.*

Source: American Petroleum Institute.

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NATIONAL PETROLEUM NEWS

Clean-Air Regs Threaten U.S. Refining Industry

The U.S. refining industry is seriously threatened by new clean-air regulations, just about everybody agrees, but neither refiners themselves nor federal environmental regulators can decide the likely extent of the damage. All appear to concur that a refinery will never be built in this country again.

Much of the uncertainty stems from the fact that the Clean Air Act (CAA) amendments of 1990 have not been fully interpreted and implemented by the Environmental Protection Agency (EPA), and state and local environmental agencies could adopt different or stricter standards.

These issues were aired at hearings of the Senate committee on energy and natural resources in May.

While supporting environmental cleanup in principle, oil industry representatives expressed particular concern that Congress and the regulatory agencies aren't giving due consideration, if any, to how much compliance will cost, how many refineries might have to be shut down, and whether there are more effective means to accomplish the clean-air goals.

The chief testimony of the oil industry was given by Roger C. Beach, chairman of the National Petroleum Refiners Assn., representing virtually all U.S. refiners. Beach, president of Unocal's Refining and Marketing Div., has since been elevated to president and chief operating officer of Unocal Corp.

U.S. refineries come to these precarious times already troubled, Beach said. Return on investments have been down for several years and are getting worse. Environmental costs are rising fast. Between 1981 and 1991, the number of U.S. refineries dropped to 184 from 314, or 41%.

Beach presented a new study by Wright Killen & Co., Houston consultants, showing 40 refineries recently closed, at risk or likely to fail. Together they represent 1,410,000 b/d of crude capacity. The details are as follows:

	Number	Capacity (b/d)
Likely to fail	11	250,000
At risk	16	677,000
Recently closed	13	483,000
TOTAL	**40**	**1,410,000**

Beach also cited a study by Salomon Bros., investment bankers, early this year identifying 95 refineries, each with less than 50,000 b/d crude capacity, as clearly at risk.

"It is clear," said Beach, "that smaller refineries will have the most difficulty, because they lack economies of scale, flexibility in processing and access to capital.

"One thing is fairly certain. You will not see new refinery capacity being added in the United States. The proliferation of costly environmental regulations has discouraged refinery development in the U.S. for the past decade, and new environmental regulations make future construction infeasible.

"If anything, the refining side of the oil industry will follow the lead of the exploration and production side and move increasingly to foreign soil."

The implications are causes for concern: the flight of capital overseas, significant job losses at home, increased dependence on energy supplied by unstable regions and a threat to national energy security, he said.

"Congress has recognized the need to address our dependence on foreign crude oil by establishing the Strategic Petroleum Reserve," Beach noted, "but that reserve is useful only to a nation with the domesticrefining capacity to convert the crude oil to products."

The NPRA spokesman said California's latest reformulated gasoline regulations were adopted with little regard for cost effectiveness, which is bad enough, but "perhaps more disturbing is the inclination of states in other regions to adopt California's standards without regard for each state's individual air-quality problems

(Continued on page 20)

Roger C. Beach

Fourth-Quarter Decline Hurts Refining Margins

A sharp drop in domestic refining industry profit margins during the fourth quarter of 1991 was enough to pull average profit margins below those of the previous year, according to a report by Wright Killen & Co. of Houston.

The fourth-quarter dip—a result of recessionary gasoline demand and a warmer than average winter—effectively nullified the industry's record performance for the first eight months of 1991.

Preliminary numbers for the first quarter of 1992 indicate a growing disparity between individual refineries, says Wright Killen president Dr. Calvin Cobb. High conversion refineries are performing profitably while less complex, cracking refineries continue to underperform, Cobb says.

First-quarter 1992 refining margins are low, but appear to have bottomed in January, Wright Killen reports. The most significant rebound is expected in the Los Angeles Basin, where product prices showed significant gains in February and March. According to the report, the margin rebound is "least impressive" amongst East Coast refiners.

"High conversion [coking] refineries, processing heavy sour crude oil, substantially outperform less complex refineries processing light, sweet crude such as West Texas intermediate," adds Horace Hobbs, manager of the *Wright Killen Refinery Profitability Report*. Hobbs says the disparity results from an unusually wide differential between light and heavy crude acquisition costs as well as the corresponding price differences between light products (gasoline) and heavy products (asphalt).

(Continued from page 19)

or a thorough cost-benefit analysis."

Beach said he knew state regulations were not the subject of the hearings, but "they are indicative of a regulatory process gone astray.... Clearly there is a need to restore common sense and reason as well as good science to environmental regulation."

In summary, Beach recommended that environmental regulations be based on scientific fact, that EPA set clean-air goals and let the industry meet them, and that a cost-benefit analysis be performed on all proposed regulations.

Feds don't know

Testifying for the Dept. of Energy, associate deputy undersecretary Vito Stagliano told the committee he doubted another refinery will be built in the United States, but the country would still have a more competitive industry than many others, with 40-60 refineries.

Asked if he thought independent refineries could survive, he responded, "I just don't know."

William Rosenberg, who administers the CAA at the EPA, said the agency believes independent refiners can make the required investments to meet CAA requirements, adding that they signed a negotiated agreement on reformulated gasoline. NPRA's Beach countered that refiners signed to remove uncertainty so that they could go ahead with necessary investments.

John H. Lichtblau, director of the Petroleum Industry Research Foundation, said sufficient consideration has not been given to removing the old cars that cause so much air pollution. He quoted the EPA as stating the dirtiest 6% of cars on the road emit 50% of total automotive hydrocarbons.

He said rising capital requirements and falling gasoline demand will force the closure and consolidation of some U.S. refineries. "The most endangered species are the small refineries, both those operated by large companies and those which often represent the only assets of the small companies.

"The most assured survivors are the 25 largest oil companies whose refining capacity ranges from 150,000-1,500,000 b/d and which together account for over 80% of total U.S. refining capacity. The small plants of the large companies are likely to be the first ones to be closed if their gasoline quality has to be changed, since these companies will want to concentrate their investments on the big plants where there is economy of scale.

"Many of the 100 or more small refineries will, of course, also survive, either because they supply niche markets or because they operate in areas exempted from the required quality changes in gasoline or because they will consolidate their operation with those of other small plants."

He criticized the ruling of the Federal Trade Commission that blocked consolidation of Conoco and Total refineries in Denver, stating that "if its ruling should cause the two refineries, or even one of them, to close, the competitive situation in Denver is likely to be worse than if they had been permitted to consolidate."

Lichtblau called for some limit on the right of states and regions to opt into strict regulations because of the uncertainty it causes. "If there is no further opting-in, about 35% of total U.S. gasoline demand may require reformulated [gasoline] by 2000," he said, "If there is maximum permissible opting-in, it could be 65-70%."

He said according to some industry estimates, $35-billion to $40-billion capital investments will be required in the 1990s to meet environmental requirements, in addition to other investments which amounted to $40-billion in the 1980s.

CNG Conversion, Testing Center Opened in Texas

Billed as the largest facility of its kind in the country, a Texas natural gas utility and a California testing facility have teamed up to open the Natural Gas Vehicle Technology Center in Austin, Texas.

Southern Union Econofuel Co., a unit of Southern Union Co. of Austin, and NGV Development Co., a Long Beach, Calif.-based federal testing laboratory, perform compressed natural gas (CNG) conversions, natural gas vehicle (NGV) maintenance and emissions testing at the center.

The facility has performed about 1,000 conversions over the last six months, company officials say.

The facility also offers customers a two-hose CNG dispenser with expansion to a two-pump island planned as demand increases, says Dean Lightfoot, manager of natural gas vehicles with Southern Union Econofuel. Lightfoot says domestic full size autos and trucks are the best candidates for conversion. "The economics don't work out as well with imported cars and trucks with smaller engines and higher fuel economy," he says.

Fleet customers that include Southwestern Bell, the Texas Highway Department and the Texas General Services Commission make up 90% of the center's business. Cost of a conversion to CNG at the center ranges from $2,800-$3,600, depending on the number of fuel cylinders that are required. Lightfoot says the center can perform a typical conversion in one day although more extensive conversions take longer.

"State laws are causing state agencies that are mandated to use alternative fuels to take action," Lightfoot says. He says the center currently has more than 200 vehicles from the state government sector alone, lined up for conversion. "We are aggressively marketing to the private fleet industry also," he says.

Lightfoot says the conversions can be financed through a fuel surcharge on CNG purchases and center uses the Fuelman card access system to track fuel usage and compute charges on an individual vehicle basis. He says the card system tracks vehicle maintenance, an added service attractive to fleet operators.

Atlas Supply to Become Warehouse Distributor

Atlas Supply Co., for years the automotive aftermarket arm of four former Standard Oil companies, is restructuring to become a national automotive parts warehouse distributor (WD). Its new president is Hugh D. Hanna, retired senior vice president of retail marketing for BP America.

The reorganization came about after Amoco and Exxon pulled out. The remaining two partners, BP America and Chevron, are in the process of organizing the company as a partnership of two.

Setting up Atlas as a programmed WD has been Hanna's vision for many years. As retail VP of BP, he was on the Atlas board for 14 years. He explains, "I had been trying to get others to make a change in this direction for a long time. The two remaining board members decided maybe they ought to make me live with what I'd been trying to get done."

Instead of each partner doing its own buying, Atlas will do it all. Headquarters will be Atlanta, with warehouses in Seattle, southern California and Ohio.

Hanna isn't looking outside Chevron and BP for now; in the future Atlas will be offered to others. "They could be partners or participants the way we're restructuring it now," he says, but not right away. "We're still in the process of absorbing the primary owners. My guess is that we wouldn't be in a position to look outside before the middle of 1993. We have so much to do between now and then."

NATIONAL PETROLEUM NEWS

AUGUST 1992

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Turmoil Along the Mississippi

A Conversation With Jack Malone

Hansom Hank's

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Editor's Viewpoint

Mid-morning, July 8: **Amoco Corp. announces that it will eliminate 8,500 jobs—almost 16% of its total work force—by the end of 1993. Eleven hundred of the jobs will be cut from Amoco's Chicago headquarters operations.**

Amoco chairman Laurance Fuller says the human impact of the reductions is "very real and very painful," but also very necessary. Calling the cuts part of a "strategic reassessment" to make the company more competitive, Fuller says declining earnings and cash flow resulting from the recession, lower oil and gas prices and declining product demand set the stage for the retrenchment. (See p8 for more details.)

11:45 a.m., July 8: Phone call from the news desk of "Eyewitness News" on Channel 7, the Chicago affiliate for ABC. They want to interview me about the Amoco situation. Fine, I tell Channel 7.

2:00 p.m., July 8 : "Eyewitness News" reporter Paul Meincke and a cameraman show up for the film interview at our *NPN* offices. For the next 15 minutes or so, Meincke and I talk about Amoco and the current state of the oil industry. I explain that Amoco's situation is by no means unique, that most of the majors are in various stages of economic distress (for the same reasons Fuller gave), that reports of layoffs, pullouts, selloffs or closings of stations and "non-core" business units are reported almost daily. I indicate the industry is faced with finding billions of dollars for environmental upgrades to produce cleaner-burning fuels. I also note this is only the latest in a series of cutbacks by major companies, that many have been restructuring since the early 1980s.

Finally, I point out that the industry is not in a permanent state of decline, that oilmen have tough hides, that they've been through these lull periods before and, when times get better, so will the industry's fortunes.

4:00 p.m., 5:00 p.m., 6:00 p.m, July 8: The 15-minute interview ends up as a 10-second "sound bite" on the three successive airings of the evening news. My evaluation of industry events becomes a quick take of my final comment. End of analysis.

In retrospect, this experience was a reminder of the extraordinary differences between print and broadcast journalism. The latter, especially TV, lives and dies by the quick-hitter sound bite; riots, murders, earthquakes (and company layoffs) flow past our consciousness in a constant, volatile stream of instantaneous images. The hows and the whys and the historical context of a situation get scant attention. This is no criticism; broadcast journalism has a vital and necessary role in news dissemination. It's on top of major developments (sometimes as they occur) faster than any news source. Channel 7, for one, is rated very high in this regard.

However, as a lifelong print journalist, I can see that our mission at *NPN* is equally important. As a monthly magazine, we don't do the fast-breaking stuff. Our task is to bring perspective to recent news happenings, to discern trends and to gauge the impact of industry, national and even international developments on the petroleum marketing business. Fortunately, we have a great pool of talent and expertise—our *NPN* readers—to call on to help us do this job.

—Don Smith

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August 1992 Vol. 84 No. 9

FEATURES

COVER REPORT
Turmoil on the Mississippi: A conversation with Memphis marketer Jack Malone
By Marvin Reid 26

MARKETING
Maverick marketing approach works for Hansom Hank's
By Phil Shook 32

TBA
If oil companies won't do it, maybe somebody else will
By Mark Emond 35

Hansom Hank's

32

26

DEPARTMENTS

Editor's Viewpoint 3
Ahead of the News 7
Top of the News 8
Catching Up 9
Trends & Marketplace 10
Regions
- Midwest 12
- West 13
- South 15
- East 16

General News 21
- California accuses Sears of bilking auto service customers
- Iroquios pipeline under scrutiny for environmental violations
- Ethanol gets boost from White House
- Lottery losing appeal for some C-Store chains
- Conoco outlook report calls for U.S. to diversify supply
- Vendors can play a major role in a C-Store's success

About Oil People 45
Briefs 52
Product Showcase 57
Coming Meetings 62
Classified Advertising 65

COLUMNS

C-Store Opportunities
You too can develop a 'Gullies'
By Jim Mitchell 42
Operations Management
Focus on service quality
By Howard Upton 48
Marketing Management
Joint ventures: Trend or fad?
By Dave Sullivan 51
Legal Tips for Marketers
Impact of HR 4210
By Sam Borenkind 54
Marketer's Tax Corner
Is your qualified plan outdated?
By Irving L. Blackman 60

• TRENDS

Alternative-Fuel Studies, Marketing Spreading

The pace of the race for alternative fuels is quickening. Proponents of alternative fuels apparently mean to give dedicated gasoline refiners and marketers a run for their money. The alternatives are all niche markets now, but who knows what the future holds?

The stakes are very high, and alternative fuels do not have to win out over gasoline to make their efforts worthwhile. Numerous gasoline marketers are themselves experimenting with alternative fuels, and some are developing marketing programs that will compete directly with a portion of their gasoline and diesel business.

There can be no doubt anymore that the overwhelming dominance of gasoline and diesel fuel in the automotive market will never be quite the same. The two fuels will remain to some degree dominant indefinitely, to be sure, but there appears to be sufficient energy and motivation to force room for other fuels.

Quite a few oil companies believe no alternative has a chance against reformulated gasoline. Some see CNG (compressed natural gas) and LPG (liquefied petroleum gas, mostly propane) as too cumbersome except for large fleet use, and electricity as too far away to make much of an inroad. Some think methanol, relatively unknown in widespread use, will be found to be more of a polluter than many thought.

The motor-fuel landscape is diversifying. Never have there been so many alternative-fuel experiments and programs. Never has there been so much money betting on other horses.

Phillips is launching the first product franchise in its 75-year history, a propane agreement with a Colorado marketer, Glaser Gas Inc., Calhan. Glaser will convert vehicles to run on propane, service the vehicles and sell branded UltraClean through its outlet in Colorado Springs.

Phillips 66 Propane Co., a subsidiary, already operates in Colorado east of the Rockies, with facilities in Denver, Ft. Collins and in Wyoming serving 45 fleets. The company has other UltraClean operations in St. Louis and is looking to expand to other major metropolitan areas in the Midwest.

The franchise is intended to speed up growth and make propane a more important competitor against other alternative fuels. Phillips expects to sign other contracts in Colorado by yearend. Some other companies are also beefing up their propane marketing.

One of the broadest alternative-fuel test programs appears to mean business in finding out everything about fuels and vehicles in fleet use: conversion costs, fuel economics, emissions, vehicle performance, need for employee training, maintenance requirements, complications in meeting building codes and fire regulations and other comparisons.

The $11-million project is called CleanFleet, said to be the first long-term, side-by-side alternative-fuel demonstration program. Using 113 specially built Federal Express package-delivery vans in southern California, the fleet will test CNG, electricity, methanol (M85), propane and reformulated gasoline. Flexible-fuel vehicles are excluded. Conclusions are expected in June 1994.

Backers include federal and state agencies, automakers and fuel companies. Ford, Chrysler and Chevrolet will make the nonelectric vehicles. Electric vehicles manufactured by VEHMA will be supplied by Southern California Edison.

The only oil company participants are Arco and Chevron, but some fuels are represented by associations.

Battelle Memorial Institute, a respected research firm, will carry out the evaluation and is trusted to provide a level playing field.

Emission results will be crucial, if not paramount. This whole race got started because of intolerable urban air and environmental regulations attempting to deal with it. Because of approaching deadlines, solutions can't be put off much longer. No doubt some alternative-fuel decisions will be made on regulatory demands, not on economics.

—Mark Emond

• MARKETPLACE AT A GLANCE

AVERAGE GASOLINE PRICES IN THE U.S. (per gal.)

APRIL	Gasoline (All types)	Unleaded Regular	Unleaded Premium
U.S. City Avg.	$1.197	$1.136	$1.317
Regions			
Northeast	1.209	1.128	1.341
North Central	1.174	1.132	1.299
South	1.166	1.093	1.274
West	1.263	1.213	1.388

Data no longer collected or available on leaded regular.
Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

STOCKS (Add 000 bbl.)

	6/26/92	6/28/91
Gasoline (Total)	220,876	219,167
Unleaded*	179,279	172,320
Jet Kerosine	39,789	42,300
Distillates	102,627	113,588
Residual	39,582	44,162

**Leaded regular prices no longer collected by Bureau of Labor Statistics.*
Source: American Petroleum Institute.

MIDWEST

By Steve Dwyer

For Ohio Marketers, Prosperity Isn't Always a Lowball Price

Oil companies and independent marketers in Ohio are discovering that below-market gasoline prices don't always guarantee prosperity or market dominance. The savvy marketers in the state rest comfortably in the knowledge that as long as they emphasize good business practices and customer service, that increasing gasoline volumes and market share will take care of themselves.

This marketing philosophy was reinforced in a report on the 1991 activity of the top 30 marketers in the state. Provided by the Ohio Dept. of Taxation, Motor Fuels Section, the report supported the idea that increased market share was the driving force behind the aggressive, and at times apparently excessive, marketing policies of several companies during the past year.

Both Marathon Oil Co. and Ashland Oil, Inc. went to great lengths to boost volume and market share at their retail facilities in 1991 with ultra-low prices, industry sources say. But the strategy may have backfired to a degree as Marathon's Emro marketing division, which is the second ranking marketer in the state, experienced a 1.9% decrease in taxable retail fuel sales, and sales for Ashland's branded marketing division edged down 0.5% for the year.

Other factors such as consolidation, station closures, etc., might have contributed to those flat sales. Marketers in the area claim Ohio consumers base gasoline purchases on more than just price.

"It's very interesting that Marathon and Ashland lost gallons because they've been so incredibly aggressive," says one source. "It just seemed that the most aggressive companies lost gallons, while the most responsible companies were the ones that gained."

"Marathon has this policy that they have to be at least 2¢/gal. below the market," says the source. " The policy is that they are out to gain gallons, but there is no logic behind what they do. To give you an example, Marathon opened a station adjacent to a BP America station. Even in that close proximity, Marathon posted 7¢/gal. below BP. It was unconscionable."

BP America, the top marketer in the state, commands nearly one-fourth of the Ohio market, and does so by remaining competitive without "bringing the market down," as one marketer phrased it.

BP's strategy the past two years has been to brighten up its retail image. The company has made major investments in refurbishing older units and adding more features to existing ones. This helped stimulate motor fuel sales last year. The main factor in its success, as many Ohio independent marketers have witnessed, is BP's highroad marketing strategy. Marketers say BP has had an overall stabilizing effect on the marketplace.

"We're tickled to death to have them here because they bring out the best in us. They're a responsible company," says Ben Englefield, president of Englefield Oil Co., Newark, Ohio, which is ranked ninth in the state.

Says another Ohio marketer, "BP could destroy everyone if they wanted to, but they haven't. They don't play games and they seem to take the long view. The key is they have never driven the market down and they are perhaps the only company in Ohio that has the power to bring the market up."

Englefield, which owns and operates 76 retail locations in Ohio, Pennsylvania and West Virginia under its own independent Duke brand, lost about 1.5-million gal. in 1991 at the retail level in Ohio. This was partly due to a decision to close a few marginal locations. But as Ben Englefield readily admits, the company was not as aggressive as it should have been during some periods.

"The price inversions of 1991 forced us to step out of our marketing theme and do things we wouldn't in normal conditions," says Englefield.

Englefield says the company tends to be more an "aggressive follower" than a leader. In 1991, the company's response was to temporarily match Ashland's SuperAmerica stations and Emro's Speedway and Checker stations cent for cent. But, economically speaking, that couldn't last.

Through 1991 and up to the present, Englefield would boost his retail price 7-10¢/gal. a couple days after matching these companies to recoup profits. "We have a cycle where after matching a competitor, we might raise our price on a Tuesday to see what the market would bear and then maybe by Thursday we might come back down or the market would come up to us," says Englefield. "But during that 2-day period between Tuesday and Thursday we suffered a loss of volume."

All things considered, Englefield was pleased with the way volumes responded toward the end of the year, and by the end of 1991 the acquisition of several Conoco facilities provided a shot in the arm to his retail gasoline operation.

Englefield says he's proud of weathering the storm, especially since he has no major supplier to provide margin allowances and subsidies when times are bad. "Our two largest suppliers [unbranded product from Ashland and Marathon] are also our two biggest competitors," he says.

Major oil companies account for 56% and independent marketers 30% of the motor fuel sold in the state in 1991, according to the Ohio Dept. of Taxation,

Top 10 Ohio Oil Companies

Company	Rank		% Market Share		Gross Gallons (add 000,000)		% Change
	1991	1990	1991	1990	1991	1990	
BP	1	1	23.8%	22.3%	1,319	1,254	5.2%
Marathon	2	2	14.5	14.6	806	822	(1.9)
Shell	3	3	6.3	6.2	351	346	1.4
Ashland	4	4	5.6	5.5	309	311	(0.5)
Sun R & M	5	5	4.7	4.4	258	244	5.5
Clark	6	6	3.4	2.1	189	194	(2.6)
The Lyden Co.	7	7	2.0	2.1	111	119	(6.6)
Ports Petroleum	8	8	1.7	1.8	96	100	(4.2)
Englefield Oil	9	9	1.7	1.7	94	96	(2.7)
Certified Oil	10	10	1.7	1.5	87	87	—

Motor Fuels Section.

The state's 1991 total taxable retail motor fuel gallons fell 1.28% (or 71.9-million gal.) from 1990 totals. The decline is attributed to the fact that the number of gallons used per car has dropped a whopping 37% over the past 18 years and continues to drop due to increased fuel efficiency of newer model vehicles.

Suburb Rescinds Item-Pricing Law

Grudgingly, Evanston, Ill., a north suburb of Chicago, has lifted a long-time item-pricing requirement for retail outlets. Rescinded by the city council earlier this spring, the law had forced convenience stores, supermarkets and other retailers to affix item prices to the majority of inventory in their stores.

The new interpretation of the ordinance paves the way for installation of retail scanning, which has become an effective tool for retailers to monitor inventory and keep checkout lines moving. Evanston was recognized as being one of the last municipalities—at least in Illinois—to require item pricing.

The new ordinance calls for the regular monitoring of scanner accuracy by city inspectors, but allows a disparity between the shelf price and the scanner price on a full 6% of all items tested before a store can be held in violation.

Evanston's new law also requires that stores give away free any item in which the scanned price differs from the posted price.

The developments come despite a petition drive in Evanston that attempted to sustain item pricing, which has long been an important feature for low-income and moderate-income consumers on fixed incomes, including the elderly. Many people believe that item pricing provides important information necessary for intelligent comparison shopping.

The campaign was ineffective, generating only about 50 signatures, mainly because over the years several retail locations have disregarded the ordinance by failing to item price inventory. Customers never complained, so there was never a call for strict enforcement.

While Evanston is relaxing its item pricing policies, other states and local governments that have long permitted scanning have begun to reverse course, and are exploring the possibility of reinstating item-pricing. A bill to mandate item pricing in Illinois was defeated, but could be revived in a forthcoming session of the Illinois General Assembly.

The state of New York is also exploring reinstituting item-pricing after a study showed discrepancies existed between the posted price and the scanned price.

Illinois Bill Prohibits High Contractor Fees

A legislative proposal has been introduced in the state of Illinois that prohibits environmental contractors from charging "handling" fees amounting to of more than 12% over contract.

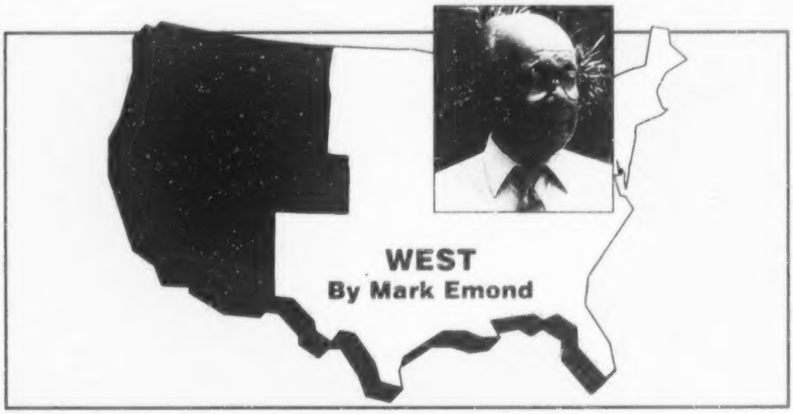
William Deutsch, executive vice president of the Illinois Petroleum Marketers Assn. (IPMA), says the measure speaks to the large number of contractors who have submitted handling charges of 15-20% to owner/operators of underground storage tanks.

The bill calls for a sliding scale schedule that puts a ceiling at 12% for a handling fee. For instance, if the cleanup of a given contaminated site costs $5,000, the contractor can't charge more than 12% of the contract. If the job costs $100,000 or more, the handling fee ceiling is 2%. In between, if the contract is $10,000, the handling fee ceiling is 10%; $10,000-$35,000, the ceiling is 8%; and $35,000-$50,000, the ceiling is 5%.

A handling fee is usually an administrative cost that includes procurement, word processing, telephone, documentation and other miscellaneous expenses.

Other provisions are contained in the bill that would amend the Environmental Protection Act and the Gasoline Storage Act. One such provision authorizes the federal Environmental Protection Agency (EPA) to make reimbursements to the owner/operator of a leaking underground storage tank after the owner has paid 100% of the amount deductible and completed 100% of the cleanup work that is required.

Presently, owner/operators have to prove payment of 100% of cleanup costs to all contractors involved in the project prior to reimbursement. This has tapped out several smaller marketers, who have found it difficult to bear the brunt of larger upfront costs.



WEST

By Mark Emond

Amoco Stays in Salt Lake: Good News, Bad News (Maybe)

Amoco's decision to continue to operate its refinery in Salt Lake City is good news for Intermountain marketers, of course, but it may not be forever. The longer-term survival of the refinery depends, apparently, on how much more environmental investments the company must make in the future.

After at least six months of trying to find a buyer for the facility, Amoco rejected all bids. President William G. Lowrie says buyer interest did not match the value Amoco places on the operations. Consequently, the company is investing about $50-million over the next two years "for the continued near-term operation of the facilities." He adds that the company will continue to evaluate these operations in the longer term.

Phillips Petroleum was also unable to find a buyer this year for its 25,000 b/d Salt Lake refinery, terminals and marketing business. The company says it received no offers at the price the company considered the properties were worth. Both Amoco and Phillips had to reach into their relatively deep major pockets to keep the plants going. The alternative was to shut them down.

More than 20 companies looked at Phillips' package. Probably a like number looked at Amoco's. Considered likely candidates were Conoco, Sinclair, Flying J, Diamond Shamrock, Pennzoil and Harken Energy.

Amoco's Lowrie says the Intermountain operations—which include the 42,000 b/d refinery as well as three marketing terminals and 39 Rainbo gasoline stations—are "profitable and are projected to bring in positive cash flow for Amoco over the near-term."

He continued, "Like many other refiners we remain concerned about the long-term profitability of U.S. refineries due to

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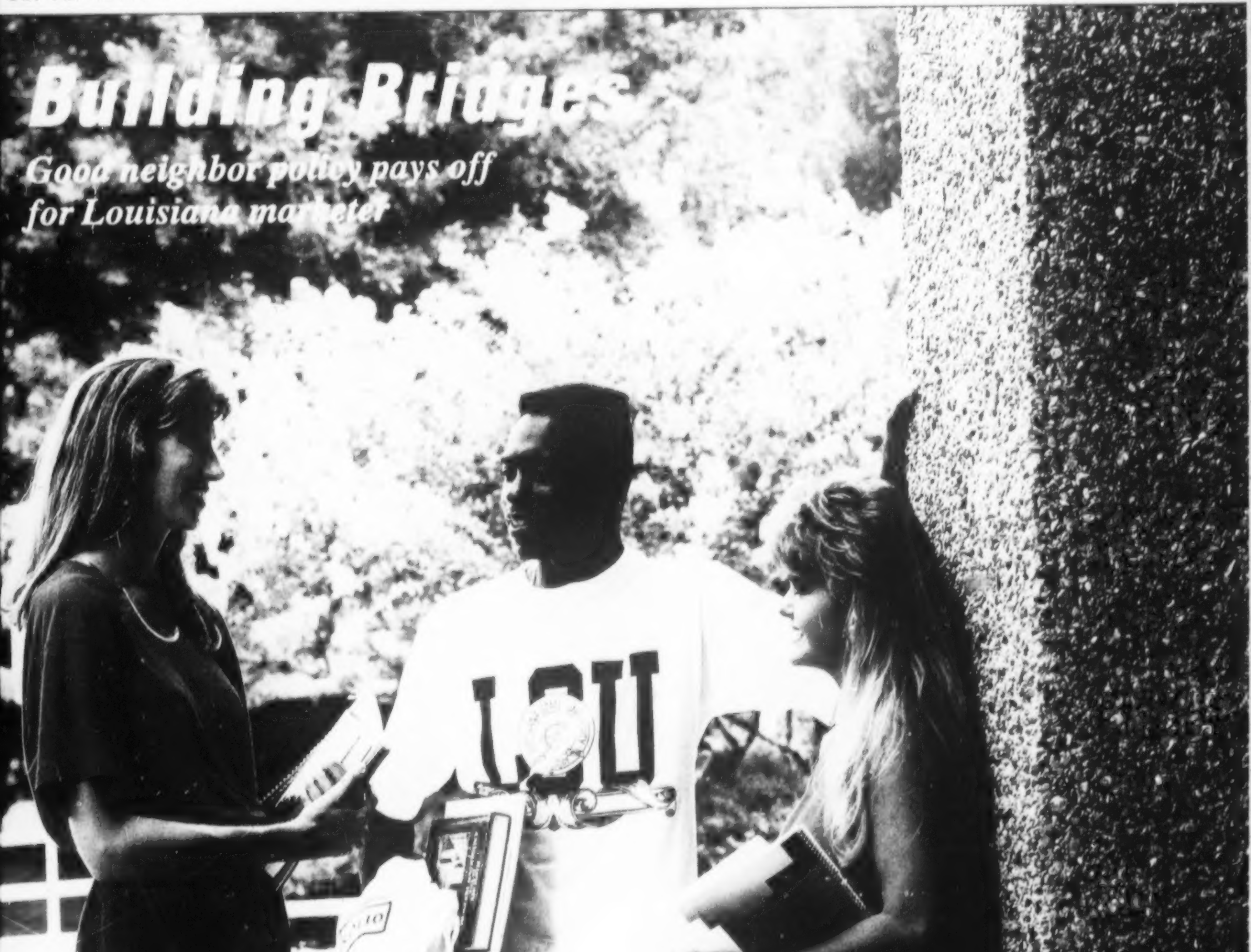

Building Bridges

Good neighbor policy pays off for Louisiana marketer

Selling Soda Pop

Managing Wastes

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Editor's Viewpoint

Day in and day out the discouraging news streams into our *NPN* news desk. Relentlessly, almost without pause, the bad news keeps coming: the bankruptcies, layoffs, lawsuits, tax cheaters, price inversions, new regulations...

Enough, already! Time for some good news. Time to switch on the light at the end of the tunnel.

It's a bit of a challenge these days to dig out the good news. Fortunately, I think our cover feature this month is just the kind of late-summer tonic the doctor ordered. When *NPN* South reporter Angel Abcede filed his story on Shreveport, La.-based marketer Al Otto and his daughters, Loralee Otto and Suzanne Otto Cush (see p32), I knew we had an antidote to a lot of the dismal news and events we've been obligated to report this year.

It's truly an upbeat story. But success hasn't come easy for Al Otto and his daughters (who are taking over the management reins of the 12-million gal./yr. jobbership). A willingness to take risks, to invest large amounts of capital, plus a commitment to making their retail outlets the showplaces of their trading areas—these were the building blocks of their success and growth.

But Al and Loralee and Suzanne have added another dimension to their entrepreneurship. They've worked hard to become "good neighbors" in the mostly disadvantaged communities they serve, investing heavily not only in attractive, well-lit stores, but also in community activities and in educational support programs for their employees. And the payoff has been well worth the effort, the Ottos discovered, in terms of community acceptance and the positive image created for their stores.

Good news doesn't just happen. Dedicated people like the Ottos make it happen.

Once again, I regret having to report the passing of a valued contributor to our *NPN* pages. Samuel H. Borenkind, 81, the author of our monthly "Legal Tips for Marketers" column, died on July 20 while on a cruise to Bermuda. Mr. Borenkind, a widely respected attorney specializing in the petroleum industry for over 50 years, began his incisive, well-informed commentary in the May 1974 issue of *NPN*, a period when volatile events in the oil industry brought legal issues to the forefront. Mr. Borenkind, who also served as attorney for the Pennsylvania Petroleum Assn. and counsel for the Empire State Petroleum Assn. and the Fuel Merchants Assn. of New Jersey, is survived by his wife, Arline Borenkind; two daughters, Lois Stangel and Helaine Wills; and four grandchildren.

—Don Smith

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Vol. 84 No. 10

FEATURES

COVER REPORT

How good neighbor policy secures jobbership's growth
By Angel Abcede 32

WASTE MANAGEMENT

Waste management: How to avoid sinking into a quagmire
By Mark Emond 38

C-STORE MARKETING

Operators finding 'solid gold' with fountain drink programs
By Steve Dwyer 44

32

21 *Hughes Aircraft Co. has introduced a line of commercial charging units for electric cars that it hopes will be a common sight at gasoline stations.*

DEPARTMENTS

Editor's Viewpoint	3
Ahead of the News	7
Top of the News	8
Catching Up	9
Trends & Marketplace	10
Regions	
• West	12
• East	13
• South	14
• Midwest	16
General News	21
• NTSB calls truck brakes a major failure	
• Shell opens biggest 'modular' C-store	
• Hughes launches charging station for electric autos	
• NCS trims down, files reorganization plan	
• Arco marketers could get up to $80-million	
• Retail selling: Suggest, but don't push, experts say	
About Oil People	53
Briefs	61
Product Showcase	66
Coming Meetings	76
Classified Advertising	80

COLUMNS

C-Store Opportunities
Location is vital, but...
By Allan Hay 30

Operations Management
Management mistakes in a new business
By Howard Upton 50

Legal Tips for Marketers
Beware of inheriting pension liabilities
By Sam Borenkind 58

Marketer's Tax Corner
How much is a good tax idea worth?
By Irving L. Blackman 74

Some Bright Spots, But So Far '92 Not a Good Year for Major Oil

It has not been a good year for leading U.S. oil companies, at least not for corporate or downstream earnings. Worldwide economic slowdown, weak product demand and tight refining and marketing margins were all reasons given for the poor performance of oil companies in the second quarter of 1992 compared to the same period a year ago.

Of the top five companies, only Shell Oil Co. posted improved figures in the second quarter and for the first half of '92 compared to the same periods a year ago. Shell's figures, however, are largely due to internal belt-tightening measures and tax adjustments the company has taken. "Operating earnings in all business segments benefited from the progress we are making in our cost-reduction programs," says Frank Richardson, president. In addition, the company is planning to sell off some of its assets, such as its coal mining subsidiary, to concentrate on the exploration and production of oil and gas.

At the other end of the scale, Amoco Oil Co. posted a whopping $478-million loss in corporate earnings in the second quarter for a $244-million loss over the first six months. Downstream, Amoco reported earnings, but this year's numbers were down roughly 70% from those posted a year ago. Chairman and CEO H. Laurance Fuller attributes the decline upstream to higher exploration expenses. He attributes the downstream decline to "a very competitive environment and continued soft demand, resulting in lower refined profit margins."

By far the largest increase in earnings was reported by Unocal Corp., whose corporate earnings jumped from $5-million in second quarter 1991 to $66-million this year. Downstream figures also showed dramatic improvement, climbing more than 450% from last year. Richard Stegemeier, chairman and CEO, says these figures reflect "improved refining and marketing earnings and lower dry hole expenses." More specifically, Unocal cites higher West Coast margins and benefits from its acquisition of Shell's Carson, Calif., refinery.

Elsewhere, Phillips, Chevron and Kerr-McGee had good news to report for the second quarter. All of these three companies report recently implemented cost-cutting programs or efforts to streamline expenses as reasons for this improvement. Kerr-McGee was somewhat unusual, however, in citing "higher refining and marketing sales volumes and margins," according to Frank McPherson, chairman and CEO. McPherson also cites higher crude oil and natural gas sales prices and volumes.

Corporate Earnings, Second-Quarter 1992

(millions of dollars)

	2nd-Qtr. 1992	2nd-Qtr. 1991(a)	% Change	6-Mos. 1992	6-Mos. 1991(a)	% Change
Exxon	$955.0	$1,125.0	(15.1)%	$2,305.0	$3,365.0	(31.5)%
Mobil	255.0	445.0	(42.6)	382.0	1,155.0	(66.9)
Chevron	350.0	384.0	(8.9)	654.0	941.0	(30.5)
Amoco	(478.0)	238.0	—	(244.0)	730.0	—
Shell	183.0	(68.0)	—	377.0	57.0	561.0
Texaco	245.0	269.0	(8.9)	445.0	684.0	(34.9)
Arco	309.0	246.0	25.6	489.0	597.0	(18.1)
BP America	379.0	426.0	(11.0)	653.0	1,077.0	(39.4)
Phillips	104.0	16.0	550.0	(10.0)	123.0	—
Conoco	NA	229.0	—	NA	551.0	—
Marathon	226.0	64.0	253.1	261.0	135.0	93.3
Unocal	66.0	5.0	1,220.0	82.0	80.0	2.5
Coastal	35.6	26.2	35.9	58.0	80.5	(28.0)
Amerada Hess	4.4	67.7	(93.5)	(19.0)	143.4	—
Sun	6.0	43.0	(86.0)	(15.0)	84.0	—
Pennzoil	10.0	12.2	(18.0)	(1.7)	(15.5)	(89.0)
Ashland(b)	31.6	66.6	(52.6)	52.0(c)	82.5(c)	(37.0)
Kerr-McGee	30.3	10.3	194.2	38.9	40.0	(2.8)
Fina	5.5	4.2	31.0	0.0	12.5	(100.0)
Citgo	26.0	25.0	4.0	53.0	66.0	(19.7)
Murphy	33.9	(105.1)	—	57.2	(79.5)	—
Total Petroleum	10.5	10.9	(3.7)	(6.9)	(2.4)	187.5
Diamond Shamrock	23.5	17.7	32.8	12.7	22.0	(42.3)
Crown Central	2.6	8.4	(69.0)	(4.0)	2.4	—
Mapco	23.0	3.0	666.0	58.0	59.0	(1.7)

Downstream Earnings

(millions of dollars)

	2nd-Qtr. 1992	2nd-Qtr. 1991(a)	% Change	6-Mos. 1992	6-Mos. 1991(a)	% Change
Exxon (total)	$180.0	$532.0	(66.2)%	$653.0	$1,885.0	(65.4)%
Domestic	47.0	113.0	(58.4)	70.0	369.0	(81.0)
Foreign	133.0	419.0	(68.3)	583.0	1,516.0	(61.5)
Texaco (total)	174.0	194.0	(10.3)	346.0	465.0	(25.6)
Domestic	80.0	65.0	23.1	160.0	125.0	28.0
Foreign	94.0	129.0	(27.1)	186.0	340.0	(45.3)
Chevron (total)	149.0	50.0	198.0	210.0	283.0	(25.8)
Domestic	95.0	(16.0)	—	134.0	83.0	61.4
Foreign	54.0	66.0	(18.2)	76.0	200.0	(62.0)
Mobil (total)	25.0	279.0	(91.0)	77.0	721.0	(89.3)
Domestic	(45.0)	65.0	—	(49.0)	165.0	—
Foreign	70.0	214.0	(67.3)	126.0	556.0	(77.3)
Amoco (total)	64.0	227.0	(71.8)	129.0	441.0	(70.7)
Shell	18.0	(27.0)	—	16.0	(23.0)	—
BP America	24.0	69.0	(65.2)	(41.0)	145.0	—
Arco	103.0	85.0	21.2	181.0	159.0	13.8
Phillips	NA	58.0	—	NA	181.0	—
Conoco	NA	160.0	—	NA	NA	—
Sun	31.0	73.0	(57.5)	24.0	111.0	(78.4)
Marathon(d)	52.0	131.0	60.3	96.0	233.0	(58.8)
Kerr-McGee	9.1	2.6	250.0	3.8	6.0	(37.0)
Murphy	6.1	13.8	(55.8)	6.8	33.8	(80.0)
Unocal	39.0	7.0	457.0	46.0	3.0	1,433.0

NA Not Available.
(a) Revised.
(b) 3rd quarter ends June 30; fiscal year ends September 30.
(c) 9 months; fiscal year ends September 30.
(d) Operating income, not net.
Source: Oil company earnings reports.

TRENDS

Oil Fights Back: Who Is Listening?

The limping economy in the United States is a crucial national issue in this election year, and the petroleum industry is among the hardest hit. Oil industry leaders seem to sense that this is the time to take the industry's case to the public.

The oil industry has been mostly silent the past decade while it suffered gradual debilitation at the hands of national, state and local regulators. Most of the damage was inflicted in the name of the environment, which is motherhood and apple pie.

The U.S. oil industry is gradually pulling out of the country, investing increasingly in foreign prospects and exporting refining to areas that are more tolerant of it. The crushing investments needed by refiners to clean up their emissions and residues and make cleaner-burning gasoline and diesel fuel have sealed the petroleum industry's fate. It is highly unlikely that another refinery will ever be built in this country, and some of the refineries that already exist will expire.

Singling out the sensitive issue of jobs, Charles J. DiBona, president of the American Petroleum Institute (API), says, "Half of the 900,000 jobs that existed in the U.S. oil and gas extraction and refining industries just 10 years ago no longer exist.

"While the rest of the economy is slowly emerging from a two-year recession, the domestic petroleum industry has been mired in a severe depression since the mid-1980s—its problems exacerbated by government polices that severely limit the industry's ability to compete in a global market.

"We are losing, or exporting overseas, quality blue- and white-collar jobs, together with skills and technology—hurting both American families and the nation as a whole."

Chevron chairman Kenneth Derr, speaking at a meeting of legislators, said, "What is happening in America's petroleum industry ought to be a national scandal.... Instead, it seems to be a national secret." He added that the American petroleum industry has lost approximately 440,000 jobs since 1982.

He said, "Refiners will bear a disproportionate share of the load—somewhere between $30-billion and $50-billion over the next five years. And what that translates into is more plant closures, more lost jobs, more economic pain for American communities."

DiBona of API further comments, "While almost all nations are encouraging oil and gas exploration and production in their territories, our political leaders have voted to place America's most highly promising lands off limits to drilling.

"Similarly, in the refining sector, regulations requiring expenditures that outweigh any possible gain have helped create a black hole into which American jobs are disappearing."

Derr called on legislators, industry and the media to inform the public on these issues and to work toward policies that balance energy, environment and economic development.

DiBona comes to this conclusion: "It is time for America's political leaders to do some heeding.... Perhaps today's massive loss of jobs will serve as a wakeup call to Congress."

It is not only political leaders who are to blame for the current situation. So are professional environmentalists and their paying constituents. Coastal residents and others oppose offshore drilling rigs. Everyday people have handed regulators the power to dictate environmental cleanup. These are their causes, but it is the price that seems to escape them.

There is much evidence that the public thinks cleanup costs come out of industry's pockets, not their own. Perhaps the unemployed do not see the connection between many of their jobs and the heavy-handed regulation of the oil industry. The petroleum industry is increasingly trying to make the point, and it remains to be seen if anybody will listen.

—Mark Emond

MARKETPLACE AT A GLANCE

AVERAGE GASOLINE PRICES IN THE U.S. (per gal.)

JUNE	Gasoline (All types*)	Unleaded Regular	Unleaded Premium
U.S. City Avg.	$1.239	$1.179	$1.359
Regions			
Northeast	1.263	1.186	1.392
North Central	1.206	1.163	1.330
South	1.202	1.129	1.312
West	1.315	1.267	1.443

** Data no longer collected or available on leaded regular.*

Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

STOCKS (Add 000 bbl.)

	7/24/92	7/26/91
Gasoline (Total)	219,235	210,847
Unleaded*	178,886	165,318
Jet Kerosine	39,203	43,044
Distillates	112,860	120,424
Residual	39,674	44,612

** Leaded regular prices no longer collected by Bureau of Labor Statistics.*

Source: American Petroleum Institute.

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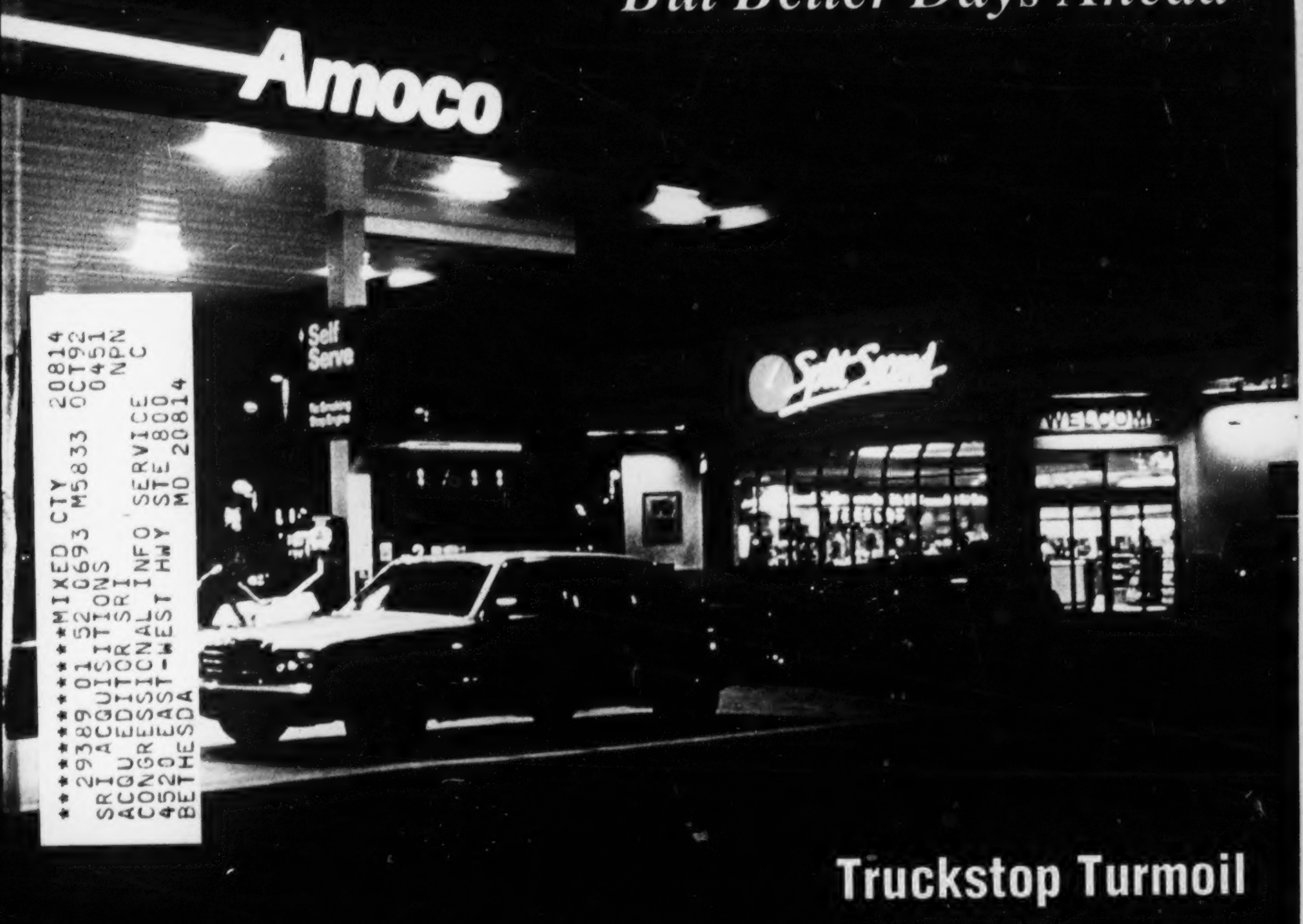
C-Store Survey

Industry Hits the Wall, But Better Days Ahead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Editor's Viewpoint

There's big trouble in the convenience store industry, or so you would believe from all the reports, the surveys, the statistics and even the gossip that are circulating around the industry.

Fact is, these are tough times for the C-store industry. Some say it's an industry in decline, that the boom times are over, that the market is saturated with too many stores. And so on.

I don't buy it.

Yes, sales are flat, overall (except for gasoline, which continues to command a bigger share of the total convenience store sales mix each year). The total number of outlets appears to have leveled off, too, after years of soaring industry expansion. The industry's sum total pretax profits mount up to a big goose egg. Some of the Bigs (Southland, Circle K, NCS) have been muddling through Chapter 11 in recent years—the victims of marketing overreach, excessive leveraging, a limp economy and new competitors in the marketplace, i.e., the major oil companies.

Yes, there's trouble. But there are good signs, too, for the industry. Some very good signs. Our own *NPN* Convenience Store Survey (see p51) reveals that petroleum marketers and convenience store companies responding to the survey, while losing a net 1,381 outlets since 1990, project a gain in total outlets of 484 stores by the end of next year. And some 300 companies say they will remodel or rebuild 1,482 outlets in the same time frame. Not a boom, perhaps, but progress, certainly.

The most important fact to emerge from all the industry surveys is that smaller companies are healthier in today's market than the bigger firms. In this respect, our *NPN* survey intersects with the 1992 *State of the Industry* (SOI) report published by the National Assn. of Convenience Stores (NACS). Our survey shows smaller firms (1-50 outlets) lost fewer units since 1990 and expect to add more units, comparatively, than big firms. The pretax profitability data in the NACS study provides almost a mirror image of per-store profit by the small 1-10 store operators ($14,000 per store profit) and the over 500 store companies ($12,800 per store loss).

Another good omen. A recent Gallup poll (commissioned by NACS) shows that 96% of Americans are regular shoppers at the nation's C-stores. This is up from 1988's figure of 88%. Almost half of all Americans shop at C-stores two or more times a week, up 5% from 1988.

Hang in there, folks. Better times are ahead.

—Don Smith

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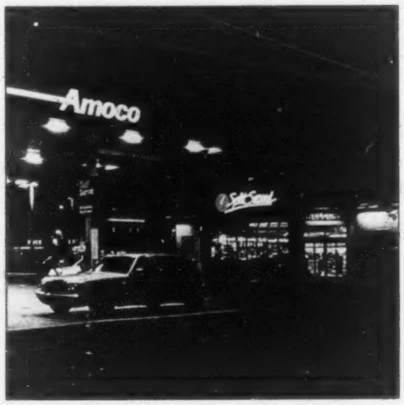
October 1992 Vol. 84 No. 11

FEATURES

COVER REPORT
Exclusive *NPN* Survey: C-store industry hits the wall, but better days loom ahead
By Don Smith 51

TRUCKSTOPS
Tax cheating, low margins and high capital costs have once-bullish truckstop operators worried about their survival
By George Schultz 73

TBA
'Strategic alliance': New wave in oil-company TBA marketing?
By Mark Emond 92



51

DEPARTMENTS

Editor's Viewpoint 3
Ahead of the News 7
Top of the News 8
Catching Up 9
Trends & Marketplace 10

Regions
- West 15
- South 18
- East 20
- Midwest 24

General News 29
- Damage horrendous, but not fatal in wake of Hurricane Andrew
- EPA takes used oil off the hazardous waste hook
- Brand value, hiring disabled discussed at Southeast show
- Diesel tax collection sparks heating fuels committee debate
- Shell goes solo with CNG sales
- New study, task force boost hopes for ethanol
- Amoco introduces Crystal Clear Premium in Midwest

About Oil People 100
Briefs 107
Product Showcase 113
Coming Meetings 121
Classified Advertising 127

COLUMNS

C-Store Opportunities
Where have all the people gone?
By Jim Fisher 48

Operations Management
Shoring a tank excavation
By Howard Upton 89

Marketing Management
Investing in leadership training
By Dick Vinet 104

Marketer's Tax Corner
Second opinion saves a tax bundle
By Irving L. Blackman 110

29 *Hurricane Andrew took a heavy toll on station canopies. Many were damaged beyond repair*

• TRENDS

Free Trade Will Affect Oil Products, Too

The North American Free Trade Agreement, or NAFTA, if it goes through as presently envisioned, will open, to some degree, the United States, Canadian and Mexican borders in a way that is bound to have significant effects on trade in practically all products, including petroleum.

Significant doesn't necessarily mean a huge increase or decrease, in one direction or another. It means free-market processes, in which ordinary business practices now confined within national boundaries will expand throughout the continent. With less restriction at borders, business will be transacted in ordinary ways.

The potential is enormous. North America is a vast economy, with $6-trillion product sales annually and 360-million consumers.

Barriers will come down and red tape will diminish, leaving marketers to work out new arrangements on a footing more like what goes on among states in this country rather than among nations in the world.

The kinds of trading that go on among U.S. refiners and marketers will spread across the continent. Some such trading is already going on, but much more will be done.

Under NAFTA, 65% of U.S. industrial and agricultural exports to Mexico will be duty free immediately or within five years. Negotiators are working on detailed tariff sheets covering 9,000 products.

Trading will increase in gasolines and diesel fuels that don't meet strict U.S. environmental requirements. Thomas G. Burns, Chevron chief economist, explains that with the U.S. moving toward very heavily reformulated gasoline, "some of the refinery blends that are no longer suitable in the United States will go to Mexico, and Mexico will be able to make some reformulated gasoline in their refineries and sell that in the premium markets here."

He says there will also be enhanced cross-border trade because of logistics, because of where refineries are located. "There is already a certain amount of that," he says. "For example, in El Paso, where Chevron has a refinery, we sell products across the border to Mexico because it is much cheaper and convenient for them to buy from us than to transport it from their own refineries. There will be more of that."

Burns believes there will be an increase in cross-border activity, but not necessarily in net volume. "Anything you do to enhance trade is going to have an impact on the petroleum products trade as well," he says. "I suspect, though, that at the end of the day, the net volume going across will probably be similar to what it is now. But there will be more flows in both directions as people take advantage of lower tariff barriers and ease of movement in order to make the kinds of swaps that are typically made in the oil industry inside of the country."

The same is true for Canada. "Cross-border trade has been going on for a while, and it will increase," Burns comments.

He explains, "As you treat a number of economic units as a single unit"—North America as a whole rather than as three countries—"you obviously get more movement around. You're going to see more movement in general, I think, but, again, the net amount moving is probably going to be about the same."

He says cross-border buying of motor fuel in U.S. cities along the Canadian border will continue as before because it's based primarily on state and local product taxes, which are not affected by the free-trade agreement.

The Mexican constitution forbids ownership of its petroleum resources by foreign countries, so forget that. U.S. natural gas should be able to find markets in Mexico. U.S. petroleum equipment should also find markets across borders. Pemex, the Mexican national oil company, will eventually be able to buy from U.S. companies, a potential of $5-billion a year.

All three nations must still ratify NAFTA before it becomes a reality, but many give it a good chance. Perhaps by next year things should start happening, with tariffs phasing out for the next five to 10 years.

—Mark Emond

• MARKETPLACE AT A GLANCE

AVERAGE GASOLINE PRICES IN THE U.S. (per gal.)

July	Gasoline (All types*)	Unleaded Regular	Unleaded Premium
U.S. City Avg.	$1.238	$1.175	$1.363
Regions			
Northeast	1.281	1.198	1.414
North Central	1.169	1.125	1.298
South	1.209	1.135	1.319
West	1.332	1.285	1.461

** Data no longer collected or available on leaded regular.*

Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

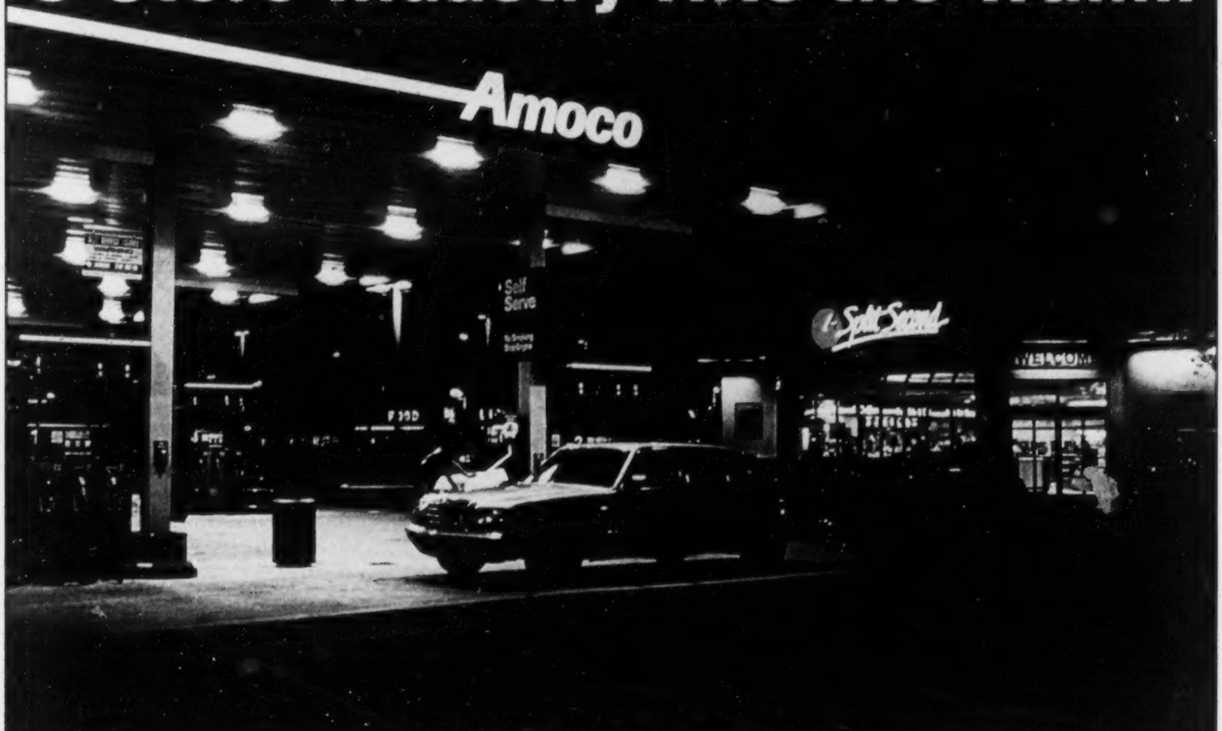
STOCKS (Add 000 bbl.)

	8/28/92	8/30/91
Gasoline (Total)	205,147	209,622
Unleaded*	164,572	167,228
Jet Kerosine	41,592	42,069
Distillates	126,124	126,657
Residual	40,085	46,217

** Leaded regular prices no longer collected by Bureau of Labor Statistics.*

Source: American Petroleum Institute

C-Store Industry Hits the Wall... ...But Better Days Loom Ahead



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At some point in the last three years, the "oomph" went out of the dynamic growth that has characterized the convenience store industry over the past 15 years or so.

Some say it's just part of the general economic malaise that is afflicting the U.S. economy. Some point to intensified competition from newer players in the market; i.e., the major oil companies, some of which have been expanding their C-store networks at a breakneck pace.

By Don Smith
Editor

Many in the industry—marketers, C-store companies—claim, too, that some of the majors have been playing hardball with gasoline pricing, tearing up markets with retail postings at their company outlets that are below the cost they sell to their wholesale customers.

Moreover, some traditional giants of the C-store business—Southland, Circle K, National Convenience Stores—are suffering painful financial hangovers from the overheated expansion binge of the 1980s. Overleveraged and overbuilt, these companies are downsizing, consolidating and pulling back from certain markets to get their financial houses in order.

Environmental and other regulatory costs are skyrocketing, too, putting a further strain on financial resources already stretched thin by a soft economy and slackened demand.

Even the major oil companies are hurting in today's business climate, despite their penetration of the C-store market. They, too, have been downsizing. Hardly a week goes by without one of the majors announcing a work force reduction, a market pullout or the selloff of a batch of retail properties and other assets.

NPN's Market Facts '92, published in mid-June, reported that eight out of ten of the largest companies had a combined loss of 5,245 retail units in the past year—many of them C-store/gasoline outlets. The net loss for the top ten oil companies was 3,591 retail locations.

Times are hard for petroleum marketers and C-store operators alike. However, our annual *NPN* C-store survey contains more than a few hints of optimism for the industry in the next year. Data from this year's survey shows that a greater percentage of marketers and C-store companies plan to build or acquire new retail units in the year ahead than at any time in the past three years. Only the continued downsizing at several of the biggest C-store companies stands in the way of 1993 becoming a banner year for industry growth.

Soft market

There's no question that the convenience store industry has "plateaued" in the past two years. The annual *State of the Industry Report* (SOI) published by the National Assn. of Convenience Stores (NACS) reported that the total number of

(Continued on page 68)

NPN **'s Convenience**

Company	H.Q. Location	C-Store Name	No. of States Where Stores Are Located	Company Operated	Franchise Operated
A-B Petroleum, Inc.	Colorado Springs, CO	U-Gas-Um Food Store	1	7	0
ARO Systems, Inc.	St. Peters, MO	Mr. Fuel / ARO Mart	2	0	0
Acme Retail Inc.	Gastonia, NC	Handy Pantry Food Store	2	—	—
Admiral Petroleum Co.	**Coopersville, MI**	**Admiral**	**1**	**0**	**0**
Ahlport Petroleum Corp.	**Watsonville, CA**	**Exxon Mini Market**	**1**	**3**	**0**
Alaskan Oil, Inc.	**Syracuse, NY**	**Alaskan Oil Konvenience Store**	**1**	**0**	**0**
Albemarle Oil Co.	Albemarle, NC	Various	1	0	21
Allen Oil Co., dba Pump N Pantry	Savannah, GA	Pump N Pantry	1	0	0
*Amerada Hess Co.	Woodbridge, NJ	Hess Mart	5	127	0
Amoco Oil Co.	**Chicago, IL**	**Amoco Food Shop**	**32**	**367**	**0**
Amocoland, Inc.	***Morrisland, TN***	***Amocoland***	**1**	**9**	**0**
Annis Petroleum Products	**Waterloo, IA**	**Metro 66**	**1**	**0**	**0**
Arco Products Inc.	Los Angeles, CA	am / pm Mini Market	5	N/A	N/A
Arens Oil Inc.	Montgomery City, MO	Kwik Store	1	11	0
Arkansas Valley Petroleum Inc.	Tulsa, OK	Git N Go	2	0	0
Arogas, Inc.	**St. Charles, MO**	**One Stop Food Mart / Mr. Fuel**	**2**	**4**	**0**
Asco Oil Co. Inc.	**Logansport, IN**	**ASCO / Sunoco**	**1**	**3**	**0**
Ashmore Distributors Inc.	**Madisonville, KY**	**One Stop Food Mart**	**1**	**5**	**0**
Atlas Oil Co.	East Hartford, CT	Atlas	2	19	0
Aviva Stores Corp., Div. Reid Petroleum Corp.	Lockport, NY	Aviva Food Store	1	3	N/A
Ayer's Oil Co.	**Canton, MO**	**Ayer Co.**	**1**	**15**	**0**
B 'n B Convenience Stores	***Austell, GA***	***Quick N Easy***	**1**	**0**	**0**
BFC	Rochester, MN	Pump N Munch	3	0	0
BFS Foods	*Bruceton Mills, WV*	*B.F.S. Foods*	3	0	0
B & J Gas & Oil Inc.	Hixson, MI	B & J Gas & Oil	1	0	0
Baird Oil	**Boise, ID**	**Go-Fer Convenience Store**	**1**	**0**	**0**
F.L. Baker Distributing, Inc.	**Carlyle, IL**	**Amoco Food Shop**	**1**	**3**	**0**
Baltus Oil Co.	**Marshfield, WI**	**Bread & Butter Shop**	**1**	**0**	**0**
Bama Oil Co.	Montgomery, AL	Capitol Service Station	1	10	0
Barkman Oil Co. Inc.	Woodbury, PA	Barkman Oil	1	2	2
Baron-Huot Oil Co.	Kankakee, IL	Huot Oil	1	0	0
Barrick Enterprises Inc.	**Birmingham, MI**	**B Mart**	**1**	**9**	**0**
Barron & Sons, Inc.	**Monroe, MI**	**Total**	**1**	**2**	**0**
Bartel Enterprises Inc.	**Wheaton, IL**	**Bartel's Classic Fuel Mart**	**1**	**0**	**0**
Bauserman Oil Co.	Winchester, VA	Jiffy Mart	1	5	0
Bazell Oil Co.	Logan, OH	Pennzoil Convenience Store	1	2	0
Bedford Valley Petroleum Corp.	Everett, PA	RG's Food Shop	3	N/A	N/A
Berreth Oil Inc.	**Mishawaka, IN**	**Various**	**1**	**6**	**0**
Besche Oil Co.	**Waldorf, MD**	**Quik Shop**	**2**	**9**	**0**
Best Oil Co.	**Pittsburgh, PA**	**Toot-N-Scoot**	**2**	**N/A**	**N/A**
Bettiol Fuel Service, Inc.	Onconta, NY	Red Barrel Food Store	1	20	0
Big Chief Distribution	Killeen, TX	Big T Gas	1	3	0
Big John's	*Oneida, TN*	*Big John's*	2	10	0
Big K Oil Co., Inc.	**Hattiesburg, MS**	**Big K Food Store**	**1**	**14**	**1**
Big Rs	**Battle Mountain, NV**	**Big R**	**1**	**0**	**0**
Blackmon Oil Co.	**Columbus, GA**	**Corner Cupboard**	**2**	**6**	**0**
Blodgett Oil Co. Inc.	Mt. Pleasant, MI	Shell Food Mart	1	13	0
Blueox Corp.	Oxford, NY	Nice N Easy	1	0	8
Boardman Oil Co. Inc.	Augusta, GA	Texaco Food Mart	2	0	0
Bodie's Dairy Markets	***Georgetown, DE***	***Bodie's Dairy Market***	**2**	**6**	**0**
Body Beautiful Car Wash Inc.	**San Diego, CA**	**Body Beautiful Car Wash Mini-Mart**	**1**	**1**	**0**
Bold Petroleum Inc.	**Colorado Springs, CO**	**Acorn**	**1**	**9**	**0**
Boncosky Oil Co.	Elgin, IL	Mobil Mart	1	3	0
Boots Bros. Oil Co., Inc.	Crawfordville, IN	F & F Mart	1	4	0
BP Oil Co.	Cleveland, OH	BP Shop	15	820	0
Brabham Oil Co. Inc.	**Bamberg, SC**	**E-Z Shop**	**1**	**0**	**0**
Breez-In	***Hopewell, VA***	***Breez-In***	**1**	**11**	**2**
Brennan Petroleum Corp.	**Mesa, AZ**	**Brenco**	**1**	**N/A**	**N/A**
Brewster Sunoco/Smart Shop	*Brewster, NY*	*Smart Shop*	2	—	—
Briscoe Oil Co.	Tearell, TX	Cowboys	1	0	2
Brock Oil Co.	Bloomiongton, IL	Spee-D-Mart	2	8	0
Brooks Food Markets	***Minnetonka, MN***	***Brooks Food Market***	**1**	**0**	**0**
C.N. Brown Co.	**South Paris, ME**	**The Big Apple Food Store**	**2**	**52**	**0**
Browning Oil Co.	**Bowling Green, KY**	**Shell Food Mart**	**1**	**9**	**0**
Bruning Enterprises Inc.	*Trinity, NC*	*Quik Shop/Gas Stop*	1	2	0
Buchanan Oil	New Philadelphia, OH	Shell Food Mart	1	4	0
Buckley Gasoline Marketers, Inc.	Bridgeport, CT	Buck Stop	2	6	0
Buddy's Mini-Marts, Inc.	**Jackson, MI**	**Buddy's Mini Mart**	**1**	**29**	**0**
Budget Oil Co.	**Owatonna, MN**	**Budget Mart**	**2**	**24**	**0**
Burch Oil Co. Inc.	**Hollywood, MD**	**Burchmart Food Store**	**1**	**0**	**0**

KEY: N/A Precise figures not disclosed by company ? Plan to add C-stores, but exact number unknown — Does not pertain
*** Includes some general information from 1991 *NPN* survey.**

Store Summary

1990 Total	1991 Total	1992 Current	1992 Year End	Additions Projected in 1993	Number With Gasoline	Avg. Gasoline Volume Per Store/Per Month		Size (Sq.Ft.)	
						Mini	Full	Mini	Full
—	—	7	?	3	7	45,000	60,000	900	1,800
4	4	4	4	1	4	—	N/A	—	2,000
96	83	68	68	4	66	50,000	44,000	800	2,400
21	21	21	21	0	21	100,000	100,000	700	1,800
1	3	3	3	?	3	N/A	N/A	N/A	N/A
19	20	22	22	?	22	—	N/A	—	2,500
21	21	21	21	?	21	—	60,000	—	2,400
13	15	15	16	2	15	55,000	50,000	900	2,000
100	127	N/A	?	?	N/A	—	150,000	—	1,200
—	—	5,559	?	?	5,559	N/A	—	1,000	—
6	7	9	9	2	7	N/A	N/A	800	1,500
0	0	2	3	1	2	—	97,000	—	1,200
731	752	815	?	?	809	N/A	N/A	800	2,000
11	11	12	11	2	11	—	70,000	—	2,600
69	79	100	100	?	100	40,000	55,000	900	2,400
4	4	4	4	1	4	—	100,000	—	3,000
3	3	4	6	?	4	—	134,935	—	2,040
5	4	5	5	0	5	—	20,000	—	1,800
19	19	19	19	0	19	N/A	—	960	—
3	3	3	4	2	3	—	45,000	—	2,800
16	16	15	15	0	15	100,000	100,000	700	2,200
22	18	12	12	0	12	—	41,500	—	3,000
10	18	18	18	5	18	N/A	80,000	N/A	1,600
11	12	13	13	2	12	—	100,000	—	2,600
2	2	2	2	3	2	70,000	300,000	400	N/A
8	7	7	7	3	6	65,000	—	N/A	—
3	3	3	3	0	3	—	90,000	—	N/A
6	5	5	5	1	5	—	100,000	—	2,500
9	9	10	11	1	10	60,000	90,000	N/A	N/A
2	2	2	2	0	2	150,000	—	N/A	—
5	6	6	6	1	6	—	100,000	—	3,000
9	9	9	8	0	9	80,000	90,000	N/A	N/A
2	2	2	2	0	2	80,000	90,000	500	1,500
1	1	2	2	1	2	N/A	N/A	N/A	3,200
5	5	5	5	1	5	—	N/A	—	2,100
1	2	2	2	2	2	—	120,000	—	1,600
6	6	6	7	?	6	28,000	50,000	1,000	1,500
6	6	6	6	0	6	70,000	70,000	N/A	1,500
9	9	9	9	0	8	N/A	65,000	N/A	1,200
18	19	16	?	?	16	100,000	100,000	900	1,500
18	20	20	19	1	20	N/A	55,000	N/A	2,400
5	5	3	3	5	3	60,000	85,000	400	2,200
—	2	17	17	0	17	—	N/A	—	1,600
10	11	15	15	2	15	—	113,000	—	2,000
0	1	1	1	1	1	—	50,000	—	3,200
12	12	13	13	1	13	—	104,000	—	1,500
5	8	8	8	0	8	—	60,000	—	2,000
6	6	6	6	0	6	—	35,000	—	5,000
1	1	1	1	1	1	—	270,000	—	N/A
11	10	9	9	0	9	—	50,000	—	1,800
3	3	3	3	3	3	N/A	150,000	N/A	N/A
3	3	4	4	1	4	140,000	56,000	950	1,500
900	770	820	820	25	820	100,000	150,000	700	1,200
6	8	10	11	1	10	—	70,000	—	3,000
10	11	11	12	2	11	—	152,000	—	2,800
1	1	1	1	?	1	160,000	—	900	—
2	2	2	2	1	2	50,000	70,000	N/A	2,000
6	8	8	8	0	8	—	150,000	—	2,400
27	30	30	30	1	29	70,000	60,000	600	3,200
42	45	52	54	5	52	29,000	52,000	600	1,200
9	12	12	13	2	12	51,000	71,000	900	1,600
3	3	3	3	?	3	—	68,000	—	2,000
3	3	4	5	1	4	—	125,000	—	2,400
4	5	6	7	1	6	100,000	125,000	1,000	1,800
29	27	29	31	1	29	65,000	65,000	N/A	1,600
22	23	24	24	1	24	—	55,000	—	3,000
5	5	5	5	2	5	—	110,000	—	2,500

Note: Italicized companies are those which identified themselves as convenience stores marketers with gasoline; non-italicized companies are those which identified themselves as petroleum marketers with C-stores.

C-Store Summary (Cont.)

Company	H.Q. Location	C-Store Name	No. of States Where Stores Are Located	Company Operated	Franchise Operated
Burke Oil Inc.	Chamberlain, SD	Lake View Sinclair	1	0	1
Bursaw Oil Corp.	Danvers, MA	Pump 'n Pantry	1	8	0
Burton Oil Co., Inc.	Decatur, TX	Horizon C-Store	1	3	0
C & B Warehouse Distributing, Inc.	**Virginia, MN**	**Short Stop**	1	7	0
C First, Inc.	**Woodstock, GA**	**Skinnys**	1	0	0
C.G.C. Stores, Inc.	*Muscatine, IA*	*Petro-n-Provisions*	1	6	0
CHR Corp. / Rutter's Farm Stores	*York, PA*	*Rutter's Farm Store*	2	55	0
Cal Fee Co. of Dalton	*Dalton, GA*	*Favorite Market*	3	109	4
Campbell Oil Co.	**Massillon, OH**	**Minit Mart**	1	0	55
Cannon Oil Corp.	**Dothan, AL**	**Cannon**	3	16	0
Car Care Center of Crystal Lake	**Wheeling, IL**	**Car Care Center**	1	1	0
Carse Oil Co.	Orlando, FL	Ideal Food Store	1	10	0
Cashions Food Mart, Inc.	*Cornelius, NC*	*Cashion's Quik Stop*	1	0	0
Cenex Petroleum	St. Paul, MN	Cenex Convenience Store	10	22	221
Center Independent Oil Co.	**Smock, PA**	**Sweet Pea's**	1	6	0
Central Distributing Co.	**Spanish Fork, UT**	**Fuel Ameria**	3	4	0
Central Florida Oil Co., Inc.	**Ocala, FL**	**Sun Mart**	1	12	0
Certified Oil Co.	Columbus, OH	Certified	3	25	0
CF Marts of Pennsylvania	*Clarks Summit, PA*	*Convenient Food Mart*	1	1	25
Champlain Oil Co., Inc.	South Burlington, VT	Jiffy Mart	3	—	—
Chapman, Inc.	**Sherman, TX**	**Texaco Food Mart**	3	11	0
Chevron Corp.	**San Francisco, CA**	**Chevron Food Mart**	32	N/A	N/A
Childers Marketing, Inc.	**Indianapolis, IN**	**Shell Food Mart**	1	0	0
Christy's Market, Inc.	*Brockton, MA*	*Christy's Market*	4	0	12
Circle C Food Stores	*Huntsville, AL*	*Circle C Food Store*	1	0	0
Circle K Corp.	*Phoenix, AZ*	*Circle K*	30	N/A	0
Circle S Stop N Shop	***South Sioux City, NE***	***Circle S Stop 'N Shop***	1	2	0
Citgo Petroleum Corp.	**Tulsa, OK**	**Quick Mart**	2	15	0
Clark Oil & Refining Corp.	**Clayton, MO**	**Clark Oil**	12	876	11
Clarksville Oil & Gas Co.	Clarksville, TX	Armadillo	1	8	8
Cliff Brice Stations, Inc.	Pueblo, CO	Cliff Brice / EZ-Way Food Store	1	0	0
Cloud Enterprises	Pell City, AL	Cloud's Cubberds	1	29	0
Coastal Refining and Marketing	**Houston, TX**	**Coastal Mart**	21	552	80
Cocomart	***Claremont, MO***	***Jiffy Mart***	3	17	0
The Coen Co.	**Canton, OH**	**Various**	1	N/A	N/A
Coffee Cup Fuel Stop and Convenience Stores	Aberdeen, SD	Coffee Cup Fuel Stop	4	6	0
Coleman Oil Co.	Lewiston, ID	Dyna Mart	1	0	0
Con Sun Food Industries, Inc.	***Elyria, OH***	***Convenient Food Mart***	1	15	21
Connecticut Petroleum Marketers, Inc.	**East Hartford, CT**	**Petro Pantry**	1	9	0
Conoco, Inc.	**Houston, TX**	**Conoco**	21	455	0
Consumer's Gasoline Stations, Inc.	Nashville, TN	Scot Market / Consumer Market	4	59	0
Convenient Food Mart, Inc.	*Schaumburg, IL*	*Convenient Food Mart*	9	0	410
The Corner Inc.	Collierville, TN	The Corner Texaco	1	3	0
CR's Friendly Markets	***Richland, PA***	***CR's Friendly Market***	1	37	3
Craddock Oil Co., Inc.	**McComb, MS**	**The C Store**	1	19	0
Croatt Oil Co., Inc.	**Appleton, WI**	**Croatt's Shell Service**	1	0	0
Crest Petroleum / CFM Marketing	Omaha, NE	Convenient Food Mart	2	8	7
Crosby Dairy Products, Inc.	*Bradford, PA*	*Crosby Mini Mart*	2	0	0
Crossroads Food Mart, Div. Guttman Oil Co.	Belle Vernon, PA	Crossroads Food Mart	1	0	0
Crown Central Petroleum Corp	**Baltimore, MD**	**Crown / Fast Fare / Zippy Mart**	8	406	100
Crystal Flash Petroleum Corp.	**Indianapolis, IN**	**Crystal Flash**	1	N/A	N/A
Crystal Flash Petroleum of Michigan	Grand Rapids, MI	Crystal Flash	1	27	0
Cubby's	*Omaha, NE*	*Cubby's*	1	4	0
Cumberland Petroleum Corp.	Cumberland, MD	RG's Food Shop	3	0	0
Curtis Parker Oil Co. Inc.	**Shreveport, LA**	**Conoco**	1	N/A	N/A
Curt's Oil Co., Inc.	**Muskogee, OK**	**Curt's Oil Co.**	3	13	0
Dairy Mart Convenience Stores, Inc.	*Enfield, CT*	*Dairy Mart*	11	685	449
Jim Dandy Markets Inc.	*Nashville, TN*	*Jim Dandy Market*	1	32	0
Dandy Mini Mart Inc.	Sayre, PA	Dandy Mini Mart	2	14	0
Dark Oil Co.	**Attica, KS**	**Dark's Landing**	1	0	0
Dash-In Food Stores	***La Plata, MD***	***Dash In / Little Sue***	3	44	0
Daves Oil Co.	**Greeneville, TN**	**Little Dandy Market**	1	0	0
J.M. Davis Industries, Inc.	Morehead City, NC	Jim Dandy Food Store / Handy House	1	18	0
Davis Co. Inc.	Perry, GA	Quik Stop / Food Plus / Stop Buy	1	17	0
Day-Nite Food Mart	*Versailles, IN*	*Day-Nite Food Mart*	1	—	—
Day and Night Food Stores, Inc.	***Vestal, NY***	***Day and Night Food Store***	1	18	0
DeBlois Oil Co.	**Providence, RI**	**DB Mart / Petro Pantry**	3	25	0
Delta / Thrift Oil Co.	**Petersburg, VA**	**Thrift Mart**	1	3	0
De-Lux Dairy Markets, Inc.	*Ellendale, DE*	*De-Lux Dairy Market*	1	0	0
Dempsey's Texaco	Baton Rouge, LA	Dempsey's Texaco Self-Serv	1	0	0
Denny Klepper Oil Co.	Wichita, KS	Klepper Korner Stops	1	15	0
J.E. DeWitt, Inc.	**South El Monte, CA**	**Various**	1	1	19
Diamond Shamrock Corner Store	**San Antonio, TX**	**Corner Store**	4	757	0
Dickey Inc.	**Packwood, IA**	**Dickey Prarie Home**	1	N/A	N/A
Dickerson Stations, Inc.	Belleville, IL	Gas Mart	2	14	0

						Avg. Gasoline Volume Per Store/Per Month		Size (Sq. Ft.)	
1990 Total	1991 Total	1992 Current	1992 Year End	Additions Projected in 1993	Number With Gasoline	Mini	Full	Mini	Full
1	1	1	1	1	1	—	70,000	—	1,500
7	8	8	9	2	8	N/A	N/A	N/A	N/A
2	2	3	4	1	3	—	90,000	—	1,500
5	6	7	7	1	7	—	40,000	—	1,800
8	6	3	3	1	3	—	90,000	—	2,600
6	6	6	6	0	5	—	60,000	—	1,200
52	52	55	55	3	34	—	66,000	—	3,000
—	—	109	114	5	104	—	47,000	—	1,800
50	53	55	58	3	55	—	86,000	—	3,000
16	16	16	16	0	16	56,254	139,152	600	1,200
1	1	1	?	?	1	—	80,000	—	N/A
8	10	10	10	0	10	60,000	100,000	990	2,700
3	3	3	3	0	3	—	175,000	—	3,000
178	199	243	260	30	243	50,000	90,000	900	2,400
4	6	6	6	1	4	50,000+	50,000+	N/A	1,500
4	4	4	4	0	4	—	96,000	—	2,800
10	11	12	14	?	12	40,000	70,000	800	2,400
17	22	25	28	?	25	N/A	N/A	N/A	N/A
26	26	26	26	0	7	—	N/A	—	3,000
18	18	18	19	?	18	N/A	N/A	N/A	N/A
21	25	25	27	3	25	20,000	40,000	N/A	1,200
1,030	1,080	1,080	1,130	?	1,080	150,000	150,000	600	1,200
1	2	2	2	0	2	125,000	—	800	—
130	128	126	124	3	27	—	41,900	—	2,500
32	30	29	44	0	28	22,000	16,000	900	1,600
4,600	3,859	3,378	2,800	0	2,826	—	1,500	—	2,600
2	2	2	2	0	2	—	80,000	—	1,200
15	15	15	16	?	15	100,000	175,000	400	2,400
936	926	887	837	0	887	89,200	—	450	—
12	16	16	16	0	16	—	50,000	—	2,300
15	15	15	16	2	15	N/A	N/A	N/A	1,600
35	32	29	29	0	29	—	N/A	—	2,000
603	572	632	?	?	632	65,680	70,272	N/A	N/A
22	14	17	20	2	17	—	50,000	—	2,400
15	15	15	29	?	15	40,000	40,000	600	1,200
6	6	6	6	?	6	—	N/A	—	3,600
5	5	5	—	?	5	80,000	175,000	600	1,200
36	36	36	37	?	4	—	10,000	—	4,000
N/A	N/A	9	9	0	8	—	100,000	—	2,000
500	478	455	418	408	455	—	135,000	—	1,200
43	59	59	59	?	59	—	N/A	—	N/A
517	475	423	427	5	83	—	10,200	—	3,200
3	3	3	4	0	3	—	80,000	—	1,800
34	34	40	40	10	40	25,271	27,981	960	2,800
15	17	17	19	0	19	40,000	50,000	900	2,000
1	1	1	1	0	1	70,000	—	650	—
15	15	15	15	?	9	—	60,000	—	3,000
9	8	9	10	1	7	—	35,000	—	2,500
27	27	27	28	3	26	N/A	N/A	N/A	2,400
625	523	506	?	?	502	100,000	40,000	500	2,500
25	24	25	25	?	24	84,000	84,000	900	2,000
25	26	27	29	3	27	—	150,000	—	2,400
3	4	4	4	1	4	—	65,000	—	3,300
4	5	6	6	7	6	—	50,000	—	1,800
2	2	2	3	?	2	—	23,500	—	1,200
13	13	13	13	?	13	N/A	N/A	N/A	N/A
1,189	1,134	1,134	1,116	30	432	—	40,000	—	2,400
32	32	32	32	N/A	32	—	55,000	—	2,000
13	14	14	15	2	12	N/A	50,000	N/A	2,500
1	1	1	1	1	1	—	28,000	—	1,200
33	44	44	42	2	35	—	77,000	—	2,200
2	2	2	2	?	1	—	19,000	—	2,000
19	17	18	18	1	18	37,000	37,000	N/A	1,800
19	17	17	18	1	17	—	70,000	—	2,400
2	3	4	4	2	4	—	N/A	—	2,400
17	18	18	?	1	17	N/A	50,000	N/A	2,000
15	25	25	25	0	24	—	75,000	—	2,000
3	3	3	3	0	3	—	100,000	—	N/A
7	7	7	7	0	7	N/A	23,000	N/A	1,000
3	3	3	3	0	3	55,000	90,000	N/A	N/A
15	15	15	15	0	15	—	N/A	—	2,200
20	20	20	20	10	20	50,000	50,000	950	1,000
670	757	757	767	10	757	N/A	N/A	N/A	1,650
1	1	1	1	?	1	—	60,000	—	1,500
12	13	14	15-16	2	14	—	91,000	—	3,000

C-Store Summary (Cont.)

Company	H.Q. Location	C-Store Name	No. of States Where Stores Are Located	Company Operated	Franchise Operated
Dillon Companies Inc.	*Hutchinson, KS*	*Kwik Shop / Tom Thumb / Quik Stop / Time Saver / Mini Mart / Loaf N Jug / Turkey Hill Minit Market*	16	844	93
Dilmar Oil Co., Inc.	**Latta, SC**	**Food Chief Convenience Store**	1	27	0
District Petroleum Products	**Sandusky, OH**	**Hy-Miler Food Store**	1	25	0
Dixie Gas & Oil Corp.	**Verona, VA**	**Dino's Food Mart**	1	15	0
Doheny Oil Co.	Ballston Spa, NY	Nice-n-Easy	1	0	1
Don's Quick Shop	*Inman, SD*	*Don's Quick Shop*	1	0	0
Donnie's Deli and Grocery	*Southaven, MS*	*Donnie's Deli & Grocery*	1	4	0
Dormac Oil Co.	**Clinton, IA**	**Dormac Oil**	1	0	0
Double Quick Inc.	***Indianola, MS***	***Double Quick***	2	29	0
Downeast Energy Corp.	**Portland, ME**	**Puffin Stops**	2	23	0
*Drakes Refining Stations	Lansing, MI	Drakes Market Plus	1	10	0
Draper Energy	Wilton, NH	Hillsboro Farms / Snack Corner	1	0	0
Dyer Oil Co.	Sinton, TX	Tod's	1	1	0
Eastern Fuels, Inc.	**Ahoshie, NC**	**Red Apple Market**	2	42	0
Eblen Short Stop Stores, Inc.	***Asheville, NC***	***Eblen Short Stop Store***	1	4	0
Elwood Food Shop	Wilmington, IL	Elwood Food Shop	1	0	0
Englefield Oil Co.	Newark, OH	Duchess Shoppe	2	76	0
Emro Marketing Co.	Enon, OH	Speedway / Starvin' Marvin' / Bonded / United / ECOL Port / Gastown/Checker	16	1,572	0
Enmark Stations Inc. / Colonial Oil Co.	**Savannah, GA**	**Enmark Stations**	3	7	0
Erickson Oil Products	**Hudson, WI**	**Freedom Valu Center**	4	45	0
Ever Ready Oil Co. Inc.	Albuquerque, NM	Various	1	11	3
Evergreen Oil Co.	Evergreen, CO	Stop 'N Save	1	11	0
Express Convenience Centers / U.S. Oil	Combined Lakes, WI	Express Convenience Center	1	14	0
Exxon Company, U.S.A.	**Houston, TX**	**Exxon Shop / Tiger Mart / Exxon Food Store**	N/A	350	390
E-Z Mart Stores, Inc.	***Texarkana, TX***	***E-Z Mart***	5	342	0
E Z Serve Corp.	*Houston, TX*	*E Z Serve / Majik Market/ Direct / Red Diamond*	21	N/A	N/A
E Z Shop Food Marts	Maryville, TN	E Z Stop Food Mart	1	10	0
FKG Oil Company	**Belleville, IL**	**Motormart**	6	49	0
Farm & Home Oil Co.	**Telford, PA**	**Farm & Home Corner Store**	2	N/A	N/A
Farm Crest Milk Stores	*Denver, CO*	*Farm Crest Milk Store*	1	14	0
Farm Fresh Inc.	*Wheeling, WV*	*Farm Fresh*	2	16	0
**Farm Stores*	*Miami, FL*	*Farm Store*	1	N/A	N/A
****Farmland Industries***	***Kansas City, MO***	***AmPride***	9	N/A	N/A
Farris Express Fuels, Inc.	**Tulsa, OK**	**XPress Fuels**	1	8	0
Fast Stop	***San Manuel, AZ***	***Fast Stop***	1	4	0
Fastop Convenience Stores, Inc.	*Honolulu, HI*	*Fastop*	1	—	—
Fastop of Oklahoma	Tulsa, OK	Fastop	1	13	0
Fastrac Convenience Store	Albany, GA	Fastrac Convenience Store	1	3	0
Feather Petroleum	**Grand Junction, CO**	**Stop 'n Save**	1	8	0
Feeney Oil Co.	**El Paso, IL**	**Thrifty Mart**	1	0	0
Fina	**Dallas, TX**	**Finaserve**	4	113	0
Fitzgerald Convenience Store	Marietta, GA	Fitzgerald Food Store	1	11	0
Fleet Oil Co.	Athens, GA	Golden Pantry	2	92	0
Fleming Petroleum Inc.	Pittsburgh, KS	Short Stop Food Store	1	3	0
Flying J	***Brigham City, UT***	***Flying J / Travel Plaza C-Store***	25	70	4
Food and Fuel	**Harvard, IL**	**Food and Fuel**	1	3	1
Food Spot Stores	***Miami, FL***	***Food Spot Store***	1	0	0
Four Star Service, Inc.	Wyoming, MI	Four Star Service Station	1	10	0
Fran Oil Co.	Council Bluffs, IA	Eddy's	2	0	0
Friendly Service Station Inc.	Fairfield, CT	C/P Mart	1	5	0
Fun Food / Tiger Oil Co.	**Harriman, TN**	**Fun Food**	1	2	0
Gant Oil Co.	**Walkertown, NC**	**Gant Food Mart**	1	23	0
Garb-Ko Inc. / 7-Eleven	Saginaw, MI	7-Eleven / Super 7	4	48	118
Gardner Oil Co., Inc.	Monticello, AR	Cracker Box Food Store	?	17	0
GasAmerica Services, Inc.	Shirley, IN	GasAmerica Mini Mart	2	38	0
Gas Express	**Honolulu, HI**	**Express Mart**	1	15	0
Gate Petroleum	**Jacksonville, FL**	**Gate Food Post**	9	N/A	N/A
Gates Oil Co.	**Falfurrias, TX**	**Exxon Shop**	1	5	0
Gaylen Petroleum Co./ Westland Enterprises, Inc.	Atkinson, NE	Various	2	3	0
Genessee Farms Dairy Marts	*Batavia, NY*	*Genessee Farms Dairy Mart*	1	10	0
Gerlach Oil Co., Inc.	**Abilene, TX**	**Chevron Food Mart**	1	7	0
Get & Zip Convenience Stores	**Redmond, VA**	**Get & Zip**	1	5	0
Getty Petroleum Corp.	**Jericho, NY**	**Getty Mart**	12	N/A	N/A
Giant Industries Arizona, Inc.	Scottsdale, AZ	Giant Food Store	3	0	0
Gillespie Oil Co., Inc.	Bellefontaine, OH	Shell Food Mart	1	6	0
Git-N-Go, Inc.	*Tulsa, OK*	*Git-N-Go Convenience Food Store*	2	0	0
Glassmere Fuel Service	**Tarentum, PA**	**Glassmart Food Store**	1	0	0
Glenn's Grocery & Deli	***Minnetonka, MN***	***Glenn's Grocery & Deli***	1	1	0
Go Mart, Inc.	**Gassaway, WV**	**Go Mart**	3	70	0
Gold Harvest Market Inc.	*Shingle Springs, CA*	*Gold Harvest Market*	1	1	2
Goshen Dairy Stores	*New Philadelphia, OH*	*Goshen Dairy Store*	1	0	0

1990 Total	1991 Total	1992 Current	1992 Year End	Additions Projected in 1993	Number With Gasoline	Avg. Gasoline Volume Per Store/Per Month		Size (Sq. Ft.)	
						Mini	Full	Mini	Full
960	940	937	945	10	773	—	N/A	—	2,400
22	26	27	27	2	27	N/A	57,300	N/A	2,400
25	26	27	27	1	27	70,000	65,000	900	1,800
3	3	3	3	0	3	120,000	90,000	600	2,200
4	3	2	2	?	2	—	N/A	—	2,400
4	4	4	4	0	4	—	50,000	—	3,000
3	3	3	3	0	3	—	60,000	—	1,500
27	28	29	33	2	28	—	N/A	—	1,900
21	23	23	23	1	23	75,000	100,000	N/A	2,000
18	16	10	?	?	10	35,000	60,000	700	2,400
5	5	5	5	?	5	10,000	8,000	N/A	N/A
0	1	1	1	2	1	—	60,000	—	1,800
43	43	42	42	2	41	—	N/A	—	1,200
8	8	4	4	1	4	—	60,000	—	2,400
1	1	1	1	2	1	—	70,000	—	2,100
51	73	76	?	4-6	76	N/A	N/A	N/A	2,000
1,665	1,590	1,572	1,551	0	1,572	—	N/A	—	3,000
7	7	7	7	0	7	104,000	450,000	482	3,100
44	45	45	47	3	45	—	80,000	—	3,000
10	13	14	15	1	14	—	145,000	—	1,200
11	11	11	11	1	11	—	46,000	—	2,800
13	14	14	15	2	14	—	85,000	—	2,400
689	696	740	?	?	740	—	N/A	—	1,100
291	327	342	345	30	337	—	N/A	—	2,000
N/A	N/A	952	952	?	952	—	39,000	—	N/A
10	11	10	11	1	10	—	50,000	—	2,000
50	50	49	53	0	49	70,000	123,000	800	2,200
4	4	4	5	?	4	120,000	130,000	800	1,200
13	14	14	14	0	14	49,000	49,000	950	2,600
18	17	16	16	0	11	—	32,000	—	2,400
252	222	222	222	?	75	N/A	N/A	600	2,400
N/A	N/A	187	187	?	N/A	70,000	90,000	850	2,400
7	7	7	9	1	5	40,000	78,500	N/A	2,800
4	4	4	4	1	4	—	100,000	—	3,000
9	9	9	9	1	8	—	N/A	—	2,400
13	13	13	26	4	13	N/A	80,000	N/A	1,500
3	3	3	3	1	3	—	200,000	—	N/A
8	8	8	9	0	8	N/A	85,500	N/A	1,800
4	5	7	8	1	7	75,000	90,000	1,000	2,400
160	117	126	111	4	112	94,500	94,500	900	2,500
11	12	11	11	0	11	—	N/A	—	2,750
98	94	92	?	?	92	—	N/A	—	1,500
3	3	3	3	1	3	—	72,000	—	2,400
—	—	74	76	6	74	—	90,000	—	4,000
4	4	4	4	2	4	—	100,000	—	1,500
43	40	39	39	?	4	—	60,000	—	2,400
10	10	10	8-11	?	10	130,000	—	700	—
6	6	6	7	1	6	—	150,000	—	1,800
4	4	5	6	3	5	90,000	175,000	900	1,800
2	3	3	3	0	3	—	70,000	—	1,800
4	5	6	7	1	6	40,000	—	1,000	—
22	23	23	24	1	19	N/A	75,000	N/A	1,200
—	159	166	166	10	20	—	N/A	—	3,190
13	15	16	17	10	16	—	47,500	—	1,800
36	38	38	41	2	38	—	N/A	—	2,400
9	12	15	15	?	15	N/A	N/A	N/A	N/A
90	98	98	98	?	90	—	50,000	—	1,600
0	2	2	2	2	2	35,000	60,000	N/A	1,800
21	23	24	24	1	24	—	30,000	—	1,200
5	6	7	8	?	7	—	20,000	—	1,400
4	5	5	5	?	5	—	55,000	—	2,500
578	561	604	604	?	562	42,000	42,000	600	1,200
40	44	44	44	0	44	100,000	158,000	800	1,780
7	7	7	7	1	7	N/A	90,000	N/A	1,800
81	81	84	86	?	81	—	N/A	—	3,200
3	5	7	9	11	7	75,000	75,000	N/A	N/A
1	1	1	1	2	2	—	120,000	—	4,000
59	63	70	72	5	69	140,000	140,000	N/A	3,000
1	1	1	2	1	2	—	130,000	—	5,000
13	13	13	13	0	5	—	N/A	—	2,500

C-Store Summary (Cont.)

Company	H.Q. Location	C-Store Name	No. of States Where Stores Are Located	Company Operated	Franchise Operated
Grace Energy Corp.	Carthage, MO	Fastrip	4	30	0
Griffith Oil, Inc.	Huntingdon, PA	3G	1	6	0
Jack Griffith Petroleum Products	Stillwater, OK	Gas-Up	1	15	0
Geo. H. Green Oil., Inc.	Fairburn, GA	Greenway Store	1	7	0
Green Valley Grocery	Las Vegas, NV	Green Valley Grocery / Midjit Market	1	0	0
Gull Industries, Inc.	Seattle, WA	Express Lane / Quik Stop / HiCo	3	0	3
Handy Andy Food Stores	Indianapolis, IN	Handy Andy	1	12	0
Haywood Oil Co., Inc.	Waynesville, NC	Gas 'n Groceries	1	7	0
Henderson Oil Co., Inc.	Hendersonville, NC	Energy Mart	1	5	0
Herdrich Petroleum	Rushville, IN	Herdrich's	1	12	0
Heritage Oil Delivery Service, Inc.	Kingston, NY	Corner Store	1	2	0
Herkimer Petroleum Products Inc.	Utica, NY	Nice N Easy Grocery Shoppe	1	25	0
Herndon Oil Corp.	Abbeville, AL	Shell Food Mart / Super C Food Mart / Midi Mart	3	0	0
Hi Noon Petroleum Inc.	Missoula, MT	Various	1	0	0
*Angus I. Hines, Inc.	Suffolk, VA	Sentry Food Mart	3	49	0
Hit-N-Run Food Stores	Alton, IL	Hit-N-Run	1	6	0
Holiday Companies	Bloomington, MN	Holiday	7	0	30
Holiday Markets, Inc.	Valdosta, GA	Holiday Market	1	0	0
Home Oil Co. Inc.	Ashford, AL	Hobo Pantry	1	18	0
Home Oil and Gas Corp.	St. Joseph, MO	Weston Depot	1	1	0
Hooper Quick Stop, INc.	Brownsville, TN	Hooper Quick Stop	1	5	0
Hoover Oil Co. Inc.	Pine Bluff, AR	Big Red	1	10	0
Horizon Convenience Stores	Rockford, IL	Horizon Convenience Store	2	6	0
Horkey Oil Co. Inc. / Friend's Convenience Stores	Lubbock, TX	Friends Convenience Store	1	28	0
Housley Distributing Inc.	Silver City, NM		1	2	0
Hull Oil Co.	Panama City, FL	Jr. Food Mart	1	4	0
Wally Hutter Oil Co.	Quincy, IL	Snack Hut's	1	1	0
Ice Box Food Stores	Port Aransas, TX	Ice Box Food Store	1	10	0
Ilderton Oil Co., Inc.	High Point, NC	Iloco Mart	1	8	0
Imperial Oil Co.	Mt. Pleasant, MI	Next Door Food Store	2	35	2
Inland Energy, Inc.	Farmington, MD	Inland Express Shop	1	8	0
Inland Oil Co.	Ephrate, WA	Quick Stop	1	4	0
Inter City Oil Co., Inc.	Duluth, MN	ICO Convenience Plus	4	36	0
Investing Associates, Inc.	Cooperstown, NY	Taylor's Mini Mart	1	6	0
Iowa Oil Co.	Dubuque, IA	IOCO Speede Shoppe	3	30	7
J & J Mini Markets	Alamogordo, NM	J & J Mini Market	1	—	—
J & L Oil Inc.	Vernon Hills, IL	J & L Food Mart	2	21	0
Jack Rabbit, Inc.	Harlington, TX	Jack Rabbit / Chevron	1	0	0
Jackson Oil Co.	Clarksville, TN	Jackson Oil	1	11	0
Jackson Co. Oil, Inc.	Scottsdale, AZ	Fina Mart	2	6	0
Jaco Oil Co.	Bakersfield, CA	Fastrip	2	10	68
Jarrell Oil Co. Inc.	Florence, SC	Kwik Fill	1	13	0
Jay Petroleum	Portland, IN	Pak - A - Sak	2	0	0
J.W. Jenkins Inc.	Henderson, NC	Snack Shack	1	8	0
Jet Food Stores	Sandersville, GA	Jet Food Store	1	0	0
Jiffy Stop, Inc.	Milwaukee, WI	Jiffy Stop	1	10	1
Jimbo's Deli Mart East	Washaugal, WA	Jimbo's Deli Mart	1	2	0
Johnny Quik Food Stores, Inc.	Fresno, CA	Johnny Quik Food Store	1	0	25
Johnson Oil Co. Inc.	Columbus, IN	Big Foot Food Store	2	0	70
W.E. Jones Oil Co.	Texarkana, TX	Triple J	2	5	2
R.L. Jordan Oil Co., Inc.	Spartanburg, SC	Hot Spot	3	0	0
Jr. Food Mart, Inc.	Jackson, MI	Jr. Food Mart	18	100	244
JR Food Stores	Bowling Green, KY	JR Food Store	2	0	0
Junior Food Stores, Inc.	Meridian, NC	Supa Stop	2	0	0
*Kampgrounds of America, Inc.	Billings, MT	KOA	47	12	612
Kane Liquid Fuels, Inc.	Kane, PA	Kane	1	0	0
Kangaroo Inc.	Gainesville, GA	Kangaroo	1	0	0
Kaul's Mini Store	Milwaukee, WI	Kaul Mart	1	0	0
Kelley-Williamson	Rockford, IL	Mobil Mart	2	27	0
Kellen Oil Co.	Effingham, IL	7-Eleven	1	33	0
Kelso Oil Co. Inc.	Knoxville, TN	Pride Oil / Smoky Mountain Market	1	N/A	N/A
Ke-Mar Corp.	Locust Grove, VA	Summit Pantry Express	1	0	0
Kent Distributors Inc.	Midland, TX	Kent Kwik	1	23	0
Kerr-McGee Refining Corp.	Houston, TX	Kerr-McGee	8	66	0
Kimber Petroleum Corp.	Madison, NJ	Kwik Pik	1	5	1
Kimbro Oil Co.	Nashville, TN	Amoco Food Shop	1	19	0
Kincer's Inc.	Wharton, TX	Kincer's Food Store	1	15	0
King & King Enterprises	Kansas City, MO	King Super Store	3	30	0
Kirchman Oil Corp.	Belle Glade, FL	K Country Gas N Shop	1	5	0
Kocolene Oil Corp.	Seymour, IN	Kocolene Fuel / Food Mart	3	N/A	N/A
*Krause Gentle Corp.	West Des Moines, IA	Kum & Go	6	131	0
Kwik King	Ocala, FL	Kwik King	1	48	0
Kwik Shop	Hutchinson, KS	Kwik Shop	5	189	12
Kwik Stop	Carefree, AZ	Kwik Stop	1	16	0

1990 Total	1991 Total	1992 Current	1992 Year End	Additions Projected in 1993	Number With Gasoline	Avg. Gasoline Volume Per Store/Per Month: Mini	Avg. Gasoline Volume Per Store/Per Month: Full	Size (Sq. Ft.): Mini	Size (Sq. Ft.): Full
26	30	30	32	3	30	—	93,500	—	2,100
8	9	10	10-12	1	6	—	50,000	—	2,800
14	15	15	15	?	15	N/A	65,000	N/A	3,200
7	7	7	7	0	7	—	85,000	—	2,000
9	12	12	12	2	6	—	N/A	—	3,000
60	75	75	75	2	75	80,000	80,000	N/A	2,000
11	12	12	12	0	8	—	40,000	—	2,000
9	7	7	7	1	7	N/A	N/A	N/A	2,400
5	5	5	6	1-2	5	—	30,000	—	1,800
9	11	12	12	2	12	85,000	25,000	N/A	1,000
2	2	2	2	0	2	—	80,000	—	1,800
22	23	25	25	2	25	100,000	80,000	N/A	2,500
22	24	43	44	?	42	65,000	65,000	850	1,500
2	3	4	4	2	4	—	75,000	—	1,500
31	32	49	?	?	48	—	65,000	—	1,400
6	6	6	6	1	3	—	60,000	—	2,400
230	240	244	244	10	244	N/A	N/A	N/A	4,000
41	48	47	?	?	46	—	N/A	—	2,400
16	17	18	17	1	18	N/A	60,000	N/A	2,500
2	3	3	3	?	3	30,000	60,000	N/A	N/A
4	5	5	5	0	5	N/A	45,000	N/A	3,500
7	8	9	10	0	9	N/A	80,000	N/A	N/A
6	6	6	8	2	6	—	100,000	—	3,200
21	23	28	31	2	28	80,000	70,000	600	2,400
2	2	2	2	0	2	50,000	—	900	—
4	4	4	4	0	4	100,000	60,000	1,000	2,400
1	1	1	1	0	1	82,000	—	780	—
10	10	10	10	0	10	—	30,000	—	2,400
6	8	8	8	1	8	—	81,000	—	1,800
38	37	37	37	6	35	70,000	100,000	800	2,500
13	9	8	8	0	8	N/A	N/A	700	1,500
4	4	4	4	0	4	70,000	70,000	900	1,600
31	33	36	36	2	36	—	60,000	—	2,000
4	4	6	6	0	6	N/A	N/A	N/A	N/A
36	37	37	37	0	37	—	58,700	—	2,400
7	7	7	?	?	7	—	N/A	—	1,000+
21	21	21	21	1-2	21	—	85,000	—	2,500
3	3	3	3	0	3	—	N/A	—	2,500
10	10	11	12	2	11	—	75,000	—	2,000
2	6	6	6	?	6	—	65,000	—	2,000
96	98	98	98	2	98	—	70,000	—	3,000
11	13	13	17	2	13	50,000	62,000	800	2,000
17	18	21	21	2	21	N/A	62,000	N/A	2,400
8	8	8	9	1	7	50,000	58,000	N/A	1,800
30	30	30	30	?	30	—	N/A	—	2,400
12	11	11	11	0	11	76,000	76,000	600	1,800
2	2	2	?	0	2	—	N/A	—	3,000
22	23	25	25	2	25	—	80,000	—	2,400
50	50	70	70	5	70	—	N/A	—	1,400
6	6	7	7	?	7	—	65,000	—	2,200
34	37	40	42	6	39	80,000	105,000	600	3,750
375	356	344	356	?	344	—	50,000	—	2,300
54	52	52	52	2	50	N/A	N/A	N/A	2,500
65	58	57	57	3	57	—	38,000	—	1,750
650	650	624	671	?	N/A	N/A	N/A	700	1,500
—	—	2	?	?	2	N/A	—	N/A	—
33	35	35	36	2	35	—	55,000	—	2,400
9	9	8	8	0	8	70,000	130,000	1,000	3,000
21	24	27	28	3	27	—	160,000	—	1,800
36	38	41	41	2	41	—	60,000	—	2,800
10	10	10	11	?	10	—	82,200	—	1,200
4	3	3	3	1	3	—	45,000	—	3,000
15	23	23	24	0	23	—	N/A	—	1,600
—	—	63	50	0	63	90,000	95,000	550	1,750
3	4	6	6	?	6	75,000	150,000	N/A	2,400
16	19	19	22	5	19	N/A	N/A	900	1,800
14	14	15	16	2	15	30,000	55,800	700	2,600
30	30	30	32	?	30	—	N/A	—	2,000
5	5	5	5	1	5	—	55,000	—	2,400
19	20	20	19	?	20	—	N/A	—	2,000
138	131	131	133	?	129	32,000	32,000	N/A	2,500
55	55	48	48	0	48	—	40,000	—	2,500
210	209	201	202	2	183	—	45,000	—	2,400
13	15	16	16	2	16	—	100,000	—	3,000

C-Store Summary (Cont.)

Company	H.Q. Location	C-Store Name	No. of States Where Stores Are Located	Company Operated	Franchise Operated
Kwik Trip, Inc.	*LaCrosse, WI*	*Kwik Trip*	3	229	0
Kwik Way	*Billings, UT*	*Kwik Way*	1	21	0
LDD Corp., dba Palmart	**Palmyra, NY**	**Palmart**	1	9	1
L & L Food Stores	***Nashville, NC***	***L & L Food Store***	1	0	0
Lake Elmo Oil Inc.	**Lake Elmo, MN**	**Lake Elmo Oil**	1	2	0
Lard Oil Co.	Denham Springs, LA	Jiffy Mart	1	7	2
Lassus Handy Dandy Food Stores	*Fort Wayne, IN*	*Handy Dandy Food Store*	1	20	0
Ledbetter Oil Co.	Marion, NC	Rainbow Pantry	1	5	0
Lee Foods, Inc.	***Richmond, VA***	***Minit Mart***	1	4	0
H.C. Lewis Oil Co.	**Welch, WV**	**Kwik-Serv**	1	N/A	N/A
Loco Inc.	**Grand Junction, CO**	**Loco Food Store**	1	6	0
Lone Star Company, Inc.	Jonesboro, AR	Lone Star	1	0	0
The Lyden Company	Youngstown, OH	Fast Check Food Mart / Amoco Food Shop	1	60	0
Lykins Companies	**Milford, OH**	**Friends**	2	10	0
Lynch Oil Inc.	**Burley, ID**	**Mr. Gas**	1	0	0
M & CP Investment Inc.	Port Washington, WA	Quik Stop Shoppe	1	1	0
MDK Corp.	Goshen, IN	Red D Mart	1	16	1
MFA Oil Co.	Columbia, MO	Break Time Convenience Store	1	67	0
Madison Mini Mart, Inc.	***Montgomery, AL***	***Madison Mini Mart***	1	1	0
Mahaffey Oil Co.	**Kingston, PA**	**Butler Petroleum**	1	3	0
Manassas Ice & Fuel Co., Inc.	**Manassas, VA**	**S-Mart**	1	N/A	N/A
Mapco Petroleum Inc.	Tulsa, OK	Mapco	9	278	0
Marathon Enterprises, Inc.	Wenham, MA	Marathon Mobil	1	1	0
Marathon Oil Co.	Findley, OH	Food Center	9	N/A	N/A
Marshfield Oil Co., Inc.	**Marshfield, WI**	**Petro Pantry**	1	0	0
****Martin & Bayley, Inc.***	***Carmi, IL***	***Huck's Convenience Store***	5	N/A	N/A
Martin Oil Marketing, Ltd.	**Alsip, IL**	**Martin Mini Food Mart**	2	42	0
Matherly Oil Co.	Cabool, MO	*Pump N Pantry*	1	3	0
Maveric Country Stores, Inc.	*Afton, WY*	*Maveric Country Store*	8	113	0
Maveric Mini Marts, Inc.	*Cushing, OK*	*Maveric Mini Mart*	1	0	0
McCann's Top of the Mountain	***Hot Springs, AR***	***Top of the Mountain***	1	—	—
McCracken Enterprises, Inc.	***Wake Forest, NC***	***Food Shop***	1	12	0
McDonald Oil Co.	**LaGrange, GA**	**Money Back Food Store**	2	0	0
McKnight Oil Co.	Galax, VA	On the Way Food Store	2	—	—
McLeieer Oil Co.	Kalamazoo, MI	Food Port	1	3	0
McMullen Oil	Long Beach, CA	Larrus Snack Shop	1	0	0
Merritt Oil Co.	**Mobile, AL**	**Merri Mart**	2	0	0
Merritt Truax, Inc.	**Salem, OR**	**Pride Mini Mart**	1	N/A	N/A
Mickey's Enterprises, Inc.	***Killeen, TX***	***Mickey's Convenience Food Store***	1	15	0
Mid-Missouri Oil Co.	Kaiser, MO	Jiffy Stop	1	N/A	N/A
Mid-States Petroleum	Troy, MI	Mid-Mart	3	N/A	N/A
Midtex Oil Co. Inc.	New Braunfels, TX	Pit Stop Food Mart	1	0	0
Midwest Petroleum Inc.	**Derby, KS**	**Stop-2-Shop**	2	27	12
Midwest Petroleum Co.	**St. Louis, MO**	**Express Lane**	2	N/A	N/A
Luther P. Miller, Inc.	**Somerset, PA**	**Luther's Little Store**	1	5	0
Miller Enterprises, Inc.	Crescent City, FL	Handy Way Food Store	1	121	0
Mini Mart	*Kenville, TX*	*Mini Mart*	1	—	—
**Mini Mart, Inc.*	*Caspar, WY*	*Mini Mart*	6	107	0
Minite Stop, Inc.	***Bay Minette, AL***	***Minite Stop***	1	10	2
Mission Trail Oil Co.	**San Jose, CA**	**Mrs. Robbies Foodstore / Snackspot**	1	10	1
***Mobil Oil Corp.**	**Fairfax, VA**	**Mobil Mart**	19	551	516
Mohave Oil Co.	Kingman, AZ	Shell Food Mart	2	5	0
Monroe Oil Co., Inc.	Monroe, NC	Amoco Food Shop	1	3	0
Monument Oil Co.	Grand Junction, CO	Go-Fer Foods	3	3	15
F. Ray Moore Oil Co.	**Washington, NC**	**Makin' Tracks**	1	4	0
Moore Oil Co., Inc.	**Monroe, LA**	**Stop - N - Save**	1	6	12
J.R. Morgan Oil Co., Inc.	**Carrollton, GA**	**Amoco Food Shop**	1	8	1
Moy Oil	Dubuque, IA	Big 10 Mart	3	12	0
Mr. B's Mini Mart	Monterey, CA	Mr. B's Mini Mart	1	—	—
Mr. Convenience Inc.	*Perry, OK*	*Mr. Convenience*	1	1	0
Mr. Mini Mart, Inc.	**Holly Pond, AL**	**Mr. Mini Mart**	1	6	0
Mr. Petrol's Pantry, Inc.	**Pocatello, ID**	**Mr. Petrol's Pantry, Inc.**	1	4	0
Mugg & Bopps	***Howell, MI***	***Mugg & Bopps***	1	5	0
Mulgrew Oil Co.	Dubuque, IA	Amoco Food Shop	1	3	0
Munro Petroleum & Terminal	Biloxi, MS	MP Store	1	19	8
Murphy Oil USA, Inc.	El Dorado, AR	SPUR	12	0	143
National Convenience Stores, Inc.	***Houston, TX***	***Stop N Go / Hex Store***	*3*	*742*	*0*
National Oil & Gas, Inc.	**Bluffton, IN**	**Deli Mart**	2	0	0
**Neal, Inc.*	*San Antonio, TX*	*One Stop*	1	25	0
Neches Food Inc.	*Vidor, TX*	*Country Pantry*	1	11	0
Nella Oil Co.	Auburn, CA	1-Stop Convenience Food Store	2	25	0
New Colonial Enterprises, Ltd.	**Barnstead, NH**	**Barnstead Country Store**	1	—	—
New Par, Inc.	**Crozet, VA**	**Lucky Seven Food Store**	1	4	0
Ney Oil Co.	**Ney, OH**	**Ney Oil / Stop N Go**	1	1	0
Noco Energy Corp.	Tonawanda, NY	NOCO Express Shop	1	N/A	N/A
Noel's Food Mart	*Atoka, OK*	*Noel's Food Mart*	1	6	0

1990 Total	1991 Total	1992 Current	1992 Year End	Additions Projected In 1993	Number With Gasoline	Avg. Gasoline Volume Per Store/Per Month		Size (Sq. Ft.)	
						Mini	Full	Mini	Full
215	224	229	235	10	228	—	N/A	—	2,500
21	21	21	21	?	18	—	40,000	—	2,400
9	8	10	11	3	10	89,000	65,000	800	2,000
10	10	9	10	1	9	—	35,000	—	2,400
—	—	2	2	0	2	—	82,500	—	1,600
6	7	7	7	2	7	—	50,000	—	1,800
18	19	20	20	1	20	—	100,000	—	N/A
5	5	5	5	1	5	—	75,000	—	2,000
4	4	4	3	1	2	—	50,000	—	2,700
4	6	6	7	?	6	—	65,000	—	1,800
6	6	6	6	0	6	100,000	80,000	880	2,200
4	4	5	5	?	5	112,000	218,000	825	2,000
57	59	60	63	5	60	N/A	87,500	850	2,000
7	10	10	10	2	10	125,000	125,000	900	2,000
8	8	8	8	1	8	80,000	75,000	900	1,900
1	1	1	1	1	1	—	150,000	—	2,900
15	17	17	18	1	17	—	90,000	—	1,800
—	—	67	69	2	67	60,000	60,000	1,000	2,400
1	1	1	1	0	1	—	60,000	—	1,400
3	3	3	3	0	3	40,000	—	780	—
0	1	1	?	?	1	—	50,000	—	2,000
312	286	278	263	4	277	110,000	95,000	750	2,400
0	1	1	1	0	1	120,000	—	1,000	—
408	413	423	423	?	423	N/A	N/A	800	N/A
5	5	5	5	1	5	—	75,000	—	2,800
105	100	105	106	?	100	—	48,000	—	2,500
43	43	42	42	5	42	N/A	135,000	N/A	2,400
3	3	3	4	?	3	—	100,000	—	3,000
105	112	113	113	4	113	—	69,300	—	2,000
2	23	23	23	0	22	30,000	50,000	N/A	N/A
1	1	1	1	?	1	—	N/A	—	N/A
11	12	12	10	1	11	—	52,000	—	1,600
21	22	23	24	4	23	—	72,000	—	2,500
6	2	10	12	?	10	—	90,000	—	1,500
3	3	3	3	0	3	—	70,000	—	2,000
1	1	1	1	1	1	40,000	--	1,000	—
17	17	18	18	0	18	100,000	—	800	—
4	4	4	4	?	4	75,000	—	900	—
15	15	15	15	1	14	—	40,000	—	2,800
6	6	6	6	?	6	—	N/A	—	1,700
44	38	38	42	?	38	120,000	120,000	800	2,600
9	10	10	10	1	10	—	77,500	—	2,200
39	39	39	39	?	39	—	60,000	—	1,000+
72	N/A	65	50	?	65	—	60,000	—	1,500
4	5	5	5	0	5	—	50,000	—	2,000
121	121	121	125	2	110	—	N/A	—	2,400
13	13	14	14	2	14	—	N/A	—	1,800
120	107	107	107	?	106	—	45,000	—	2,400
10	10	10	10	0	10	—	110,000	—	2,300
9	10	10	11	2	11	N/A	N/A	400	1,250
N/A	1,167	N/A	?	?	N/A	N/A	N/A	960	1,000
4	4	5	5	6	5	60,000	80,000	900	1,200
10	11	11	11	1	11	—	45,000	—	1,800
19	18	18	21	2	18	—	N/A	—	2,400
4	4	4	4	1	4	—	115,000	—	2,400
18	18	18	19	2	18	N/A	61,500	N/A	2,000
8	9	9	9	1	9	—	100,000	—	1,500
11	12	12	13	1	12	N/A	65,000	N/A	2,500
1	1	1	1	0	1	99,000	—	855	—
1	1	1	1	0	1	—	75,000	—	2,400
8	7	6	7	2	6	—	70,000	—	2,000
4	4	4	4	0	4	—	45,000	—	1,500
5	5	5	6	1	5	—	55,000	—	1,200
2	2	3	3	—	3	—	70,000	—	1,800
27	25	27	27	3	27	—	N/A	—	N/A
156	156	143	143	4	143	41,185	41,185	850	2,000
1,091	989	742	742	0	600+	N/A	N/A	800	2,700
46	52	55	58	4	55	—	75,000	—	1,800
25	25	25	27	?	25	—	42,500	—	1,750
10	11	11	11	0	10	—	N/A	—	1,000+
28	25	25	27	2-3	25	—	150,000	—	2,700
1	1	1	1	0	1	—	33,000	—	3,400
3	4	4	7	?	2	—	125,000	—	2,400
2	2	2	3	0	2	30,000	50,000	900	1,500
19	24	24	24	?	24	25,500	32,000	450	1,200
6	6	6	6	0	6	—	N/A	—	1,000+

C-Store Summary (Cont.)

Company	H.Q. Location	C-Store Name	No. of States Where Stores Are Located	Company Operated	Franchise Operated
North Texas Convenience Store, Inc.	*Fort Worth, TX*	*Hansom Hanks*	1	6	0
Northrup Oil Co.	Chillicothe, IL	NORCO Tank & Tummy	1	15	0
Northville Industries	Montgomery, NY	Snakville	1	7	0
O'Neil's Markets Inc.	***Tacoma, WA***	***O'Neil's Market / Big O's Deli***	1	1	0
Oakwood Food & Beverage, Inc.	***Gainesville, GA***	***Oakwood Food & Beverage***	1	0	0
Ocean Petroleum Inc.	Newark, MD	Ocean Petroleum	1	3	0
Okay Food Co., Inc.	*Lufkin, TX*	*Okay Food Store*	1	15	0
One Stop Oil Co.	Jacksonville, FL	One Stop	1	12	0
Oneida One Stop	***Oneida, WI***	***Oneida One Stop Convenience Center***	1	4	0
Orloski's Quik Mart	**Wilkes-Barre, PA**	**Quik Mart**	1	—	—
Orton's Convenience Stores	**Walker, TN**	**Ortons**	2	0	0
Outpost Station	Oak Hills, CA	Outpost	1	1	0
PDQ Food Stores	*Middleton, WI*	*PDQ Food Store*	1	N/A	N/A
PPS Co. Inc.	***Soda Springs, ID***	***Keller 66***	1	0	0
Pacific Petroleum	**Springfield, OR**	**Gateway Exxon / Tiger Mart**	1	0	0
Pam Fuels, Inc.	**Sioux Falls, SD**	**Pump 'N Pack**	1	8	0
Panoco	Portland, OR	Panoco	1	2	0
The Pantry, Inc.	*Sanford, NC*	*The Pantry*	5	N/A	N/A
The Pantry Store, Inc.	*Clarksburg, WV*	*The Pantry Store*	2	30	0
Par Mar Oil Co., Inc.	**Marietta, OH**	**Par Mar Store / Gas N Goods**	2	0	0
Parker Oil Co.	**South Hill, VA**	**Red Barn / Petrol**	2	2	28
The Parman Corp.	**Nashville, TN**	**Par Mart**	1	20	0
Patterson Oil Co.	Torrington, CT	Patco Handy Stop	1	10	0
Paxson Oil Co.	Saginaw, MI	Fast Pax Food Stores	1	1	1
Pennzoil Products Co.	Pittsburgh, PA	Pennz Mart	3	9	0
Perkins Whistlestop, Inc.	***Perkins, OK***	***Whistle Stop***	1	3	0
Perry's Pantry, Inc.	**Beaverdam, OH**	**Perry's Pantry**	1	6	0
Peterborough Oil Co., Inc.	**Leominster, MA**	**Mr. Mike's Mini Mart**	3	21	0
Petro P.S.C., L.P.	El Paso, TX	Petro Stopping Center	5	0	0
*Petroleum Marketers, Inc.	Roanoke, VA	Step In Food Store	2	N/A	N/A
Petroleum Product Corp.	Middleburg, PA	Best Mart	1	0	0
Petroleum Sales, Inc.	**Decatur, AL**	**Bud's Store**	1	15	0
Petroleum Sales & Service, Inc.	**Buffalo, NY**	**Petro USA**	1	4	0
Phil Flint Oil Co.	**Flint, MI**	**Amoco Food Shop**	1	14	0
Phillips 66	Bartlesville, OK	Phillips 66	29	N/A	N/A
Piasa Motor Fuels, Inc.	Alton, IL	Piasa Pantry	2	N/A	N/A
Pic Quik, Inc.	*Hutchinson, KS*	*Pic Quik*	1	6	0
Pik Nik Foods	***San Antonio, TX***	***Pic Nic Foods***	1	15	0
Pik N Run, Inc.	**Port Charlotte, IL**	**Pik N Run**	1	5	1
***Pilot Corp.**	**Knoxville, TN**	**Pilot Foodmart / Pilot Travel Center**	24	90	0
Pinkie's Inc.	Odessa, TX	Pinkie's Mini Mart	1	4	0
H.B. Preston, Inc.	*Burkburnett, TX*	*Preston Milk Store*	1	0	12
Price Oil Co.	Andalusia, AL	Country Convenience Store	1	0	2
Pride Convenience Stores Inc.	**Churubusco, IN**	**Pride Convenience Store**	1	3	0
Pride Petro Co.	**Yorkville, IL**	**Pride Petro**	1	2	0
Prince Oil Co., Inc.	**Pearisburg, VA**	**Texaco Food Mart**	1	0	0
Private Brand Services, Inc.	Cadillac, MI	P.B.S. Party Store	1	1	0
Pump N Pantry	Montrose, PA	Pump N Pantry	1	8	0
Putnam Co.	*Wellsboro, PA*	*Acorn Market*	1	4	0
Quarles Petroleum Inc.	**Fredericksburg, VA**	**Q Stop Food Store**	1	17	0
C.R. Quesenberry, Inc.	**Abingdon, VA**	**Chevron Food Mart**	1	0	0
Quick 'N' Easy, Inc.	*Fresno, CA*	*Quick 'N' E-Z*	1	—	0
Quick Stop Food Mart, Inc.	*Fayetteville, NC*	*Quick Stop Food Mart*	2	80	0
Quick Stop Food Stores, Inc.	*Sarasota, FL*	*Quick Stop Food Store*	1	13	0
Quick Way Foods, Inc.	***Niceville, FL***	***Quick Way Food Mart***	1	11	0
Quickway Convenience Stores	**Sidney, NY**	**Quickway Convenience Store**	1	33	2
Quik Chek	***Troy, NC***	***Quik Chek***	1	22	0
Quik Mart Stores	Tucson, AZ	Quick Mart	1	0	0
QuikTrip Corp.	*Tulsa, OK*	*QuikTrip*	6	300	0
Quint Cities Petroleum Corp.	Moline, IL	One Stop Mart	2	8	0
RCH, Inc.	**Minnetonka, MN**	**Quik Mart**	1	4	0
R & H Maxxon, Inc.	**Aiken, SC**	**Depot Food Store**	2	19	0
Rainbow Food Mart	*El Dorado, AK*	*Rainbow Food Mart*	1	7	0
Rainwater Gas & Oil Co.	Florence, SC	Sav-Way	1	19	0
Redwood Oil Co. Inc.	Santa Rosa, CA	Food Mart	1	N/A	N/A
Reeves Oil Co.	**Longview, TX**	**J-R's Kwik Stop**	1	7	1
Retail Properties Inc.	***Shreveport, LA***	***Kwik Snack Food Store***	1	0	0
RG's Food Shops	***Cumberland, MD***	***RG's Food Shop***	3	0	0
Rhodes Oil Co. Inc.	Waterboro, SC	Texamart	1	5	0
Richdale Dairy Stores, Inc.	*Lynn, MA*	*Richdale Convenience Store*	2	50	0
Richert Oil, Inc.	Jennings, LA	Richert Oil	1	1	0
Rip Griffin Swift Shops Div.	***Lubbock, TX***	***Swif Shop***	6	14	0
River City Petroleum	**West Sacramento, CA**	**BP / A-Mart**	2	0	0
River Oil Co.	**Memphis, TN**	**Mini Mart**	1	4	0
R.M. Roach & Sons, Inc.	Martinsburg, WV	Texaco Food Mart	2	4	0
Road America, Inc.	*Indianapolis, IN*	*Road America*	1	11	0

1990 Total	1991 Total	1992 Current	1992 Year End	Additions Projected In 1993	Number With Gasoline	Avg. Gasoline Volume Per Store/Per Month		Size (Sq. Ft.)	
						Mini	Full	Mini	Full
7	7	6	6	1	5	—	100,000	—	N/A
17	15	15	18	2	15	N/A	70,000	N/A	2,400
0	7	7	7	3	7	—	72,000	—	1,600
5	5	1	4	0	1	—	100,000	—	1,400
2	1	1	1	0	1	—	50,000	—	3,500
2	2	3	3	2	3	90,000	150,000	700	1,400
15	14	15	14	1	15	—	250,000	—	2,500
12	12	12	12	0	12	N/A	60,000	N/A	1,200
4	4	4	4	1	4	—	N/A	—	1,800
—	—	31	?	?	31	N/A	N/A	N/A	1,800
18	18	18	?	?	18	N/A	45,000	N/A	1,200
1	1	1	1	0	1	—	100,000	—	2,500
89	87	76	76	0	57	—	97,000	—	2,400
—	—	1	1	?	1	N/A	N/A	N/A	N/A
0	1	1	2	?	1	—	300,000	—	1,000+
8	9	9	10	2	9	—	75,000	—	2,400
3	2	2	3	2	2	—	95,000	—	1,800
N/A	448	410	?	?	400	—	N/A	—	2,400
27	29	30	30	2	29	—	N/A	—	1,800
10	12	12	12	1	12	40,000	65,000	1,000	2,000
28	30	30	?	?	30	—	50,000	—	1,800
18	18	20	20	0	20	75,000	75,000	N/A	1,800
8	9	10	11	1	10	57,000	70,000	800	1,600
7	7	7	7	1	7	—	90,000	—	3,000
4	9	9	9	2	9	N/A	100,000	N/A	1,500
3	3	3	3	0	3	—	50,000	—	N/A
6	6	6	7	2	6	—	75,000	—	2,500
20	21	21	22	2	21	N/A	75,000	N/A	2,300
—	9	9	9	?	9	N/A	N/A	N/A	N/A
50	50	48	?	5	50	110,000	78,000	1,000	1,800
6	6	6	6	?	6	—	60,000	—	3,200
11	13	15	16	2	14	—	40,000	—	2,000
4	4	4	4	?	4	80,000	—	600-700	—
14	14	14	14	1	14	100,000	100,000	N/A	2,000
190	213	290	290	?	290	N/A	N/A	N/A	N/A
10	11	11	12	?	11	40,000	100,000	1,000	1,800
6	6	6	6	?	6	85,252	105,000	900	N/A
15	15	15	15	2	13	—	30,000	—	2,400
5	5	5	5	0	5	—	N/A	—	N/A
85	88	90	?	?	90	—	N/A	—	1,500
4	4	4	4	0	3	—	—	600	1,500
12	12	12	12	0	12	—	N/A	—	1,200
18	18	20	20	?	20	60,000	45,000	900	1,800
2	3	3	4	2	3	—	124,000	—	1,800
2	2	2	2	0	2	—	N/A	—	N/A
3	3	3	5	1	3	55,000	75,000	900	2,500
1	1	1	1	0	1	—	150,000	—	3,000
7	8	8	8	?	8	70,000	125,000	N/A	2,400
9	10	10	11	1	10	—	72,000	—	2,200
14	16	17	18	2	17	74,600	63,000	N/A	2,500
9	12	13	14	1	13	70,000	110,000	N/A	1,800
9	10	10	10	1	6	—	40,000	—	2,500
82	80	80	80	2	80	—	70,000	—	2,400
13	13	13	13	?	10	—	N/A	—	2,800
9	11	13	15	1	7	—	40,000	—	2,500
27	32	35	36	1	33	—	40,000	—	1,500
22	22	22	22	1-2	22	—	N/A	—	2,400
25	25	24	24	2	22	—	12,000	—	2,400
268	284	300	303	20	300	—	N/A	—	3,000
7	8	8	8	1	8	—	56,250	—	2,400
4	4	4	4	?	4	60,000	60,000	600	2,000
17	19	19	23	2	19	—	110,000	—	1,800
8	7	7	7-10	1-2	7	—	N/A	—	2,200
18	19	19	19	1	19	N/A	75,000	N/A	2,600
11	12	12	14	?	12	40,000	90,000	800	2,000
6	8	8	8	1	8	—	70,000	—	2,000
4	4	4	6	2	4	—	52,000	—	2,800
5	6	6	6	1	6	—	55,000	—	1,700
6	5	5	5	2	5	70,000	99,000	N/A	2,000
52	50	50	52	2	21	—	40,000	—	2,000
1	2	2	2	0	2	40,000	55,000	600	1,200
12	14	14	15	1	14	—	100,000	—	2,400
8	5	5	6	2	4	—	130,000	—	1,500
2	3	4	4	1	4	—	65,000	—	1,800
0	2	4	5	1	4	110,000	70,000	600	1,500
13	11	11	8	2	11	—	65,000	—	3,000

C-Store Summary (Cont.)

Company	H.Q. Location	C-Store Name	No. of States Where Stores Are Located	Company Operated	Franchise Operated
Rocky Mount Stop & Shop, Inc.	*Rocky Mount, NC*	*Stop & Shop*	1	5	0
Roger's Amoco	Maple Lake, MN	Amoco Food Shop	1	1	0
Russell Petroleum Corp.	Montgomery, AL	Kwik Shop	1	17	0
S & G, Inc.	**Albuquerque, NM**		1	11	0
SSG Corp.	**Hudson, WI**	**Auto Stop**	2	0	0
SACO Petroleum Inc.	North Kansas City, MO	Snappy Stores	2	10	0
Sahara Oil Co., Inc.	Phoenix, AZ	Rebel Quik-Mart	1	9	0
Sanders Oil Co.	Columbus, MS	Soco Stores	1	12	0
Santa Fuel, Inc.	**Bridgeport, CT**	**Buck-Stop**	3	N/A	N/A
Sav-A-Trip, Inc.	*Cherokee, OK*	*Sav-A-Trip*	2	19	0
****Save A Step Food Marts, Inc.***	***Louisville, KY***	***Save A Step Food Mart***	2	N/A	N/A
*Save - X USA, Inc.	Roanoke, VA	Save - X Mini Mart	1	10	0
Scaff's Inc.	*Lake City, FL*	*S & S Food Store*	1	0	0
SCASCO	Winstead, CT	Nutmeg Pantry / Various	1	0	11
Schierl Companies	**Stevens Point, WI**	**The Store**	2	23	0
Schilling Petroleum Co.	**Belleville, IL**	**Cross Check One Stop**	1	4	0
Schmitt Sales, Inc.	**Buffalo, NY**	**Schmitt's Robo Mart**	1	0	0
Schmuckal Oil Co.	Traverse City, MI	Shell Mini-Mart	1	19	0
Scotchman	Wilmington, NC	Scotchman	5	151	0
Scullin Oil Co.	Sunbury, PA	Short Stop Mart	1	7	2
Seaco Express Shoppe	**Rome, NY**	**Seaco Express Shoppe**	1	9	1
Service Oil Co.	**Cassopoles, MI**	**Service Mart**	1	3	0
7-Eleven Stores	***Oklahoma* City, OK**	***7-Eleven***	1	96	0
M.W. Sewall & Co.	*Bath, ME*	*Quik Mart*	1	0	0
Shay Oil Co.	Yuma, AZ	Shay's Self-Serve	1	10	0
Shearon, Inc.	Harvard, IL	Food and Fuel	1	3	1
Shell Co. (P.R.) Ltd.	**San Juan, Puerto Rico**	**Shell Circle K**	P.R.	3	5
***Shell Oil Co.**	**Houston, TX**	**Shell Food Mart**	22	185	60
Shirtcliffe Oil Co.	**Myrtle Creek, OR**	**Food Mart/Deli Mart**	1	2	0
Shop 'N' Go, Inc.	Fresno, CA	Shop 'N' Go	1	16	0
Short Stop, Inc.	*Bay Springs*, MS	*Short Stop*	1	0	0
*The Sico Co.	Mount Joy, PA	Sicoserve	3	9	0
***Sinclair Oil Corp.**	**Salt Lake City, UT**	**Sinclair Service Station**	14	220	80
Slack's Quik Sak's	***Springhill, LA***	***Slack's Quik Sak***	1	0	0
R.L. Smeltz	**Greensburg, PA**	**Food Shop**	1	0	0
Smile Gas	Augusta, GA	Smile Gas	5	48	4
Smith Oil Co. of Kankakee	Kankakee, IL	Smith Oil	1	12	0
Snappy Mart Stores, Inc.	*Silver City, NM*	*Snappy Mart*	1	0	0
Sooper Dooper Markets	***Sturgis, SD***	***Sooper Dooper Quick Shop***	1	3	0
Southern Counties Oil Co.	**Orange, CA**	**Southern Counties Oil**	1	5	0
Southern Grocers, Inc.	**Red Bay, AL**	**Jr. Food Mart/Redmont/Grocery & Gas**	2	0	2
Southern Marketing, Inc.	Shreveport, LA	Otto's	1	9	0
Southern Oil Co. Inc.	Suffolk, VA	Southern Food Store	1	6	0
Southern Sales of Aberdeen	Aberdeen, NC	Mac's Food Store	1	0	0
The Southland Corp.	***Dallas, TX***	***7-Eleven***	32	2,944	3,045
Southside Food Inc.	***South Boston, VA***	***Jiffy Food Store***	1	?	0
Southwest Georgia Oil Co.	**Bainesbridge, GA**	**Inland Food Store**	2	16	0
Speedway Center, Inc.	*Martinsville, VA*	*Speedway Center*	1	7	—
Speedy-Q Markets	*Port Huron, MI*	*Speedy-Q*	1	0	0
*The Spenser Co., Inc.	Huntsville, AL	Minitman Food Store/Citgo Mini Mart / **Amoco Food Shop/Spenser Food Store**	1	N/A	N/A
Spirits Shop, Inc.	***Hollistead, MO***	***Fastrip / Fastlube***	1	2	0
St. Romain Oil Co. Inc.	**Mansura, LA**	**Wash N Go**	1	3	0
Stallings Oil Co.	Rocky Mount, NC	Zip Mart	2	42	0
Stamark Convenience Centers	West Fargo, ND	Stamark	2	12	0
Stancil Oil Co.	Selma, NC	Amoco Food Shop	1	3	0
Star Enterprises	**Houston, TX**	**Texaco Food Mart / Texaco Star Mart /**	26	600	4,986
Star Oil Co.	**Port Huron, MI**	**Plum's Convenience Store**	1	N/A	N/A
Stamer's Quik Shoppes, Inc.	***Tannersville, PA***	***Stamer's Quik Shoppe***	1	—	—
Steuart Petroleum Co.	Washington, DC	Happy Store / Save More / Agip	6	N/A	N/A
Stimsons, Inc.	*Ogden, UT*	*Stimson's Market*	1	0	0
Stop-N-Go	*Medina, OH*	*Stop-N-Go*	1	11	0
Stop-N-Go of Madison, Inc.	***Madison, WI***	***Stop-N-Go***	2	0	0
Stop•N•Go Stores	***Fargo, ND***	***Stop•N•Go***	2	—	1
J.D. Streett & Co.	**Maryland Heights, MO**	**Citgo / Sun / Coastal**	2	14	0
Styles Bi Rite Food Store	*Midlothian, VA*	*Styles Bi Rite*	1	3	0
Sugar Bears Neighborhood Stores, Inc.	*Smyrna, TN*	*Sugar Bears*	1	1	0
Sun Co., Inc.	Philadelphia, PA	Atlantic A Plus Market/ **Sunoco Food Mart**	25	262	97
Sunny Food Stores	***Calera, AL***	***Sunny Foods***	1	19	0
Sunrise Convenience Stores, Inc.	***Richmond, MI***	***Sunrise Convenience Store***	1	20	0
Sunset Marts Inc.	*Moscow, ID*	*Sunset Mart*	1	7	0
SuperAmerica Group, Inc./Ashland Oil, Inc.	Lexington, KY	SuperAmerica	17	638	0
Supreme Petroleum Inc.	Suffolk, VA	Holiday Food Store	2	6	1
Sutey Oil Co.	**Butte, MY**	**Thriftway Super SHop**	1	6	0
Suwannee Swifty Stores, Inc.	***Quitman, GA***	***Suwannee Swifty Store***	3	201	0
Swatek Sales Corp.	**Lake Geneva, WI**	**Express Lane**	1	N/A	0

1990 Total	1991 Total	1992 Current	1992 Year End	Additions Projected in 1993	Number With Gasoline	Avg. Gasoline Volume Per Store/Per Month		Size (Sq. Ft.)	
						Mini	Full	Mini	Full
6	5	5	5	0	5	—	50,000	—	2,400
1	1	1	1	1	1	—	80,000	—	2,400
17	17	17	17	2	17	N/A	N/A	N/A	2,400
10	11	11	11	1	11	—	20,000	—	1,000
33	33	32	32	1	32	—	62,500	—	2,500
10	10	10	11	2	10	N/A	52,000	N/A	1,800
8	9	9	10	1	9	—	N/A	—	3,000
10	12	12	12	1	12	N/A	60,000	N/A	1,500
4	6	6	8	?	6	—	110,000	—	1,500
19	19	19	20	1	19	—	52,000	—	2,500
24	26	35	32	?	33	—	N/A	—	3,000
10	10	10	11	1	10	N/A	N/A	1,000	2,000
36	35	35	36	3-4	35	—	40,000	—	2,775
11	11	11	11	1	11	—	80,000	—	2,000
22	22	23	23	4	23	—	N/A	—	1,500
4	4	4	4	2-3	4	—	86,000	—	N/A
?	?	5	5	?	5	N/A	N/A	N/A	N/A
16	18	19	19	2	19	90,000	114,000	N/A	2,400
158	154	151	149	2	151	N/A	N/A	N/A	2,000
0	0	7	7	0	7	—	50,000	—	2,500
10	10	10	?	?	10	—	100,000	—	2,000
3	3	3	3	1	3	—	58,000	—	1,500
98	97	96	96	?	89	—	N/A	—	2,400
5	6	6	6	1	6	—	N/A	—	1,600
11	11	10	11	?	10	90,000	100,000	1,000	3,000
3	4	4	4	?	4	—	140,000	—	2,200
8	8	8	13	5	8	—	130,000	—	1,860
—	—	5,000+	?	?	5,000+	N/A	N/A	800	1,800
2	2	2	2	1	2	—	100,000	—	2,800
18	17	16	18	2	14	—	30,000	—	1,200
8	6	4	4	0	4	—	35,000	—	2,400
8	8	9	10	?	9	104,000	199,000	650	1,200
N/A	300	N/A	?	?	N/A	N/A	N/A	N/A	N/A
—	—	3	5	1	3	—	60,000	—	3,500
4	4	4	5	0	4	125,000	130,000	700	1,200
48	52	52	54	4	52	N/A	N/A	N/A	2,300
9	11	12	12	3	12	—	120,000	—	2,000
10	10	10	10	0	10	—	20,000	—	N/A
3	3	3	3	?	3	N/A	N/A	N/A	N/A
5	5	5	5	?	5	150,000	150,000	400	N/A
4	4	4	?	?	4	N/A	N/A	N/A	N/A
5	7	7	10	2	9	—	68,000	—	1,500
6	6	6	7	0	6	—	80,000	—	1,800
4	5	6	6	?	5	—	N/A	—	1,800
6,190	5,943	5,989	?	?	2,380	—	46,000	—	2,800
5	5	5	5	0	4	—	20,000	—	N/A
16	16	16	16	0	15	—	70,000	—	2,000
7	7	7	7	1	7	—	75,000	—	2,800
14	15	15	15	?	15	N/A	N/A	N/A	N/A
30	33	35	?	?	35	N/A	N/A	N/A	N/A
1	2	2	2	0	2	—	150,000	—	5,000
1	3	3	3	1	3	60,000	80,000	N/A	1,800
44	42	42	42	2	21	135,000	135,000	N/A	1,900
12	12	12	13	1	12	N/A	100,000	N/A	2,500
3	3	3	4	1	3	135,000	120,000	800	2,000
5,397	5,350	5,586	5,664	78	5,500	86,000	114,000	700	1,500
7	7	7	8	?	7	100,000	150,000	800	2,000
4	4	4	6	2	4	—	65,000	—	1,800
59	67	67	?	?	67	N/A	148,000	N/A	1,500
3	3	3	3	0	3	—	100,000	—	5,000
13	12	11	11	1	7	—	100,000	—	2,500
58	47	47	47	?	37	—	N/A	—	2,400
1	3	25	26	1	23	—	65,000	—	2,700
12	14	14	14	2	14	—	90,000	—	1,800
3	3	3	3	?	2	—	100,000	—	N/A
1	1	1	3	?	1	—	50,000	—	2,400
N/A	N/A	1,644	?	?	1,644	N/A	N/A	N/A	N/A
14	16	19	26	4	19	—	85,000	—	2,200
20	20	20	22	2	20	40,000	118,000	N/A	2,600
8	7	7	7	3	7	—	46,000	—	1,500
601	624	638	653	25	615	—	145,000	—	3,600
5	6	7	9	1	7	—	65,000	—	1,800
6	6	6	6	2	6	—	60,000	—	1,800
191	212	201	?	?	N/A	—	N/A	—	2,400
12	13	13	13	0	13	N/A	N/A	500	1,500

C-Store Summary (Cont.)

Company	H.Q. Location	C-Store Name	No. of States Where Stores Are Located	Company Operated	Franchise Operated
Taylor Oil, Inc.	Wellsville, KS	Taylor Oil	2	5	0
Tee Pee Food Stores, Inc.	***Morehead City, NC***	***Tee Pee Food Store***	1	0	0
Tesoro Alaska Petroleum Co.	Anchorage, AK	7-Eleven	1	40	0
Texaco Refining & Marketing, Inc.	**Houston, TX**	**Texaco Food Mart / Star Mart**	14	459	0
Thaler Oil Co.	**Chippewa Falls, WI**	**Express Mart**	1	17	0
Thornhill Oil Co. Inc.	**Ft. Wayne, IN**	**Amoco Food Shop**	1	8	9
Tier Oil Corp.	Vestal, NY	Tier 1 Stop Food Store	1	6	0
Tiger Mart, Inc.	Beefe, AR	Tiger Mart	1	0	0
Times Oil Co.	Lincolnton, NC	Times Turn Around Food Store	2	13	0
Timlaph, Inc.	**Richmond, VA**	**E-Z Oil Products**	1	9	0
T-Mart Food Stores, Inc.	***Dunn, NC***	***T-Mart***	1	0	0
Tom Thumb Markets	***Hastings, MN***	***Tom Thumb Food Market / Polka Dot Dairies***	2	150	23
Tom Thumb Food Stores, Inc.	*Hialeah, FL*	*Tom Thumb Food Store*	1	15	0
Tooley Oil Co.	Sacramento, CA	Shell Food Mart	1	6	0
Total 24, Inc.	***Racine, WI***	***Total 24***	1	1	0
Total Petroleum	**Denver, CO**	**Total / Vickers / Road Runner**	18	620	10
Tower Sales, Inc.	**Tower City, PA**	**Tower Sales Mini Mart**	1	8	0
Town Pump Grocery	*Snoqualmie, WA*	*Town Pump Grocery*	1	0	0
*Town Pump Inc. & Affiliates	Butte, MT	Town Pump Food Store	1	N/A	N/A
Trading Post	Austin, TX	Trading Post	1	1	0
Trailside General Stores	***Bountiful, UT***	***Trailside General Store***	9	23	1
Triangle Oil Co.	**Brainerd, MN**	**Triangle 1 Stop**	1	6	0
Triangle Stop Food Stores	**Hendersonville, NC**	**Traingle Stop Food Store**	1	9	0
Triton, Inc.	Atlanta, GA	Happy Stores	3	N/A	N/A
Twin Lakes Petroleum, Inc.	Athens, GA	Twin Stop	7	7	0
U-Gas, Inc.	**Fenton, MO**	**U-Gas**	1	0	0
Ultra Fast Food Stores, Inc.	***North Tonawanda, NY***	***Ultra Fast Food Store***	1	0	0
Ultra Power Corp.	**Monticello, NY**	**Ultra Power**	1	7	0
Ultramar, Inc.	Hansford, CA	Ultramart	1	190	150
Uncle Neal's Country Convenience Stores	*Hastings, NE*	*Uncle Neal's*	1	0	0
Uni-Marts	*State College, PA*	*Uni-Mart*	6	412	49
United Refining Co. of Pennsylvania	**Warren, PA**	**Kwik Fill / Red Apple**	3	194	0
United Stop N Shop	***Montgomery, AL***	***United Stop N Shop***	1	8	4
*Unocal	**Los Angeles, CA**	**Self Serve Mart**	6	21	0
Uno-Ven Co.	Arlington Heights, IL	Uno-Ven	16	N/A	N/A
Valdek Corp.	*Grand Forks, ND*	*Valley Dairy*	2	0	0
Valley Oil Corp.	**Staunton, VA**	**Royal Food Store**	1	10	0
*Venta, Inc.	***Denver, CO***	***Convenience Plus Store / Various***	4	52	0
VEO Express Lanes, Inc.	**Monticello, NY**	**V.E.O. Express Lane**	1	0	2
Verona Oil Co. Inc.	Roscoe, NY	The Country Store	1	24	0
Vista Marketing Group, Ltd.	Rockford, IL	Vista / U-Pump	2	5	0
Waco Oil Co.	**Covington, KY**	**Waco Food Mart**	2	13	0
Wackill's Markets	***Springfield, MO***	***Express Lane***	1	0	0
Wadworth Oil Co.	**Clanton, AL**	**The Store**	1	6	1
Wag-A-Bag, Inc.	*Round Rock, TX*	*Wag-A-Bag*	1	12	0
Wake Up Oil Co., Inc.	Indianapolis, IN	Wake Up Mini Snack Shop	1	5	0
Walker Oil	Notthingham, PA	Squire's Pantry	2	10	5
Wallis Oil Co.	**Cuba, MO**	**Pump Handle**	1	21	0
Waring Oil Co.	**Vicksburg, MS**	**Interstate Station**	2	28	0
Webber Oil Co.	**Bangor, ME**	**Mini Mart**	2	0	0
Welsh Oil Co.	Merrillville, IN	Welsh Mart	2	24	0
West Sun Petroleum Products, Inc.	Flagstaff, AZ	West Sun Food Mart	1	3	0
West Texas Gas, Inc.	Midland, TX	Uncles	1	22	0
Whitten Oil, Inc.	**Colville, WA**	**Whitty's Mini Mart**	1	5	0
Willaredt Oil Co., Inc.	**Matoon, IL**	**Gasland Food Mart**	1	10	0
A.T. Williams Oil Co.	**Winston-Salem, NC**	**Wilco**	2	107	0
E.L. Williams, Inc.	Orlando, FL	The Donut Shoppe	1	3	0
J.H. Williams Oil Co.	Tampa, FL	Dash In–Dash Out	1	6	0
The Wills Group. Inc.	Plata, MD	Dash In Food Store	4	N/A	N/A
Winnsboro Petroleum Co.	**Winnsboro, SC**	**Various**	1	10	0
Witco Inc.	***Lynchburg, VA***	***Quik-E Food Store***	1	8	0
Wolfco, Inc.	**Coopersville, MI**	**Amoco Gas-N-Go**	1	5	5
Woodland Oil Co.	Traverse City, MI	Shop-N-Go	1	0	0
Woody's Food Stores	Wickenburg, AZ	Woody's Food Store	4	20	1
Xtra Mart	**No. Grosvenordale, CT**	**Xtra Mart**	7	140	0
Yocum Oil Co., Inc.	**St. Paul, MN**	**Yocum Texaco Food Mart**	1	4	6
Zip Trip, Inc.	Farley, IA	Zip Trip	1	1	0

1990 Total	1991 Total	1992 Current	1992 Year End	Additions Projected in 1993	Number With Gasoline	Avg. Gasoline Volume Per Store/Per Month		Size (Sq. Ft.)	
						Mini	Full	Mini	Full
5	5	5	5	0	5	50,000	96,250	900	2,400
7	7	7	8	?	7	—	30,000	—	2,400
39	40	40	40	0	32	N/A	N/A	900	2,000
454	471	461	410	12	461	108,299	137,076	541	1,276
17	17	17	17	0	17	—	50,000	—	1,500
14	16	17	17	1	17	110,000	120,000	900	1,600
6	6	6	6	2	6	60,000	47,000	900	1,600
6	6	6	6	2	6	—	N/A	—	2,000
16	13	13	14	?	13	—	45,000	—	1,800
13	9	9	7	6	9	65,000	50,000	1,000	1,900
12	12	14	15	2	14	—	70,000	—	2,700
N/A	N/A	173	173	2	104	—	N/A	—	3,500
16	16	15	15	2	8	—	N/A	—	2,400
—	6	6	7	2	6	210,000	196,000	800	1,200
1	1	1	1	?	1	—	55,000	—	4,000
630	627	630	?	?	629	135,000	142,000	670	1,900
7	8	8	8	1	8	80,000	65,000	800	1,600
—	1	1	1	1	1	59,000	—	900	—
60	61	62	?	?	62	—	N/A	—	N/A
[illegible]	1	1	1	0	1	—	70,000	—	1,500
22	22	24	24	2	24	—	44,700	—	2,400
4	5	6	6	2	6	—	65,000	—	2,200
13	9	9	9	1	9	N/A	56,000	N/A	2,400
16	26	26	26	?	26	40,000	150,000	800	2,500
5	6	7	7	0	7	N/A	40,000	N/A	1,700
6	5	5	6	0	5	—	130,000	—	2,500
2	2	2	2	1	1	—	49,000	—	2,000
6	7	7	8	5	7	—	50,000	—	1,500
212	212	190	180	10	190	45,000	48,000	700	1,400
4	4	5	5	1	5	—	40,000	—	2,400
339	473	461	465	10	315	N/A	33,600	N/A	2,400
192	193	194	194	?	190	81,163	67,241	800	1,000
8	12	12	12	0	12	N/A	50,000	N/A	2,000
23	23	21	0	0	21	110,000	130,000	1,000	3,000
N/A	N/A	1,139	?	?	N/A	—	N/A	—	N/A
9	8	7	7	0	4	—	N/A	—	2,400
10	10	10	10	0	10	40,000	50,000	600	1,800
44	44	52	45	?	52	—	78,000	—	1,800
8	8	8	8	1	8	—	56,000	—	1,800
23	24	24	25	1	24	—	42,000	—	2,400
5	5	5	5	1	5	90,000	150,000	750	1,500
13	13	13	14	1-2	13	—	N/A	—	N/A
4	4	4	4	1	4	—	100,000	—	3,400
6	6	6	7	1	7	—	105,000	—	2,500
12	12	12	12	2	12	—	65,000	—	2,400
6	6	6	6	0	1	82,500	65,000	400	2,500
9	10	10	10	2	10	N/A	80,000	N/A	N/A
20	21	21	22-23	1-2	21	—	80,000	—	2,500
24	26	28	29	2	28	—	125,000	—	3,300
4	6	8	10	2	8	45,000	50,000	N/A	N/A
20	21	24	25	3	24	N/A	N/A	N/A	3,000+
1	1	3	4	0	3	—	30,000	—	1,400
18	20	22	24	?	22	N/A	60,000	N/A	1,000
5	5	5	5	0	5	30,000	60,000	500	1,450
10	10	10	10	0	10	N/A	N/A	N/A	N/A
97	102	107	110	5	107	—	N/A	—	2,300
5	5	6	8	1	6	110,000	110,000	900	1,800
47	48	48	48	?	40	140,000	85,000	1,000	2,200
8	10	10	10	2	10	—	75,000	—	1,800
4	5	5	6	1	5	150,000	100,000	800	1,200
8	8	8	9	?	8	N/A	80,000	N/A	1,800
—	—	21	22	1	21	95,000	95,000	N/A	2,400
110	126	140	145	?	140	80,000	50,000	750	1,250
10	10	10	10	2	10	—	140,000	—	2,500
1	1	1	1	0	1	—	45,000	—	1,750

(Continued from page 51)

C-stores in the U.S. declined from 71,200 in 1990 to 69,600 in 1991, the first year-to-year decline ever.

Total industry profit before taxes was zero in 1991, although that was an improvement over the previous year, when the industry had a combined loss of $150-million.

Total industry sales were up slightly in 1991, NACS says, but merchandise sales declined from $40.4-billion in 1990 to $40.1-billion last year. However, gasoline sales at convenience stores were up 2.6% to $35-billion.

On the whole, smaller companies did much better than the giant chains, according to the SOI study. Chains with over 500 stores, for example, reported pretax losses of $12,800/store, while the smallest firms (1-10 stores) had per-store profits of $14,000.

A different slant

This somewhat gloomy portrait of the C-story industry, however, doesn't tell the whole story. While *NPN*'s exclusive survey, which unfolds on the next 16 pages, agrees in substance with other industry analyses of the current state of the C-store market, data from our survey offers a more complete picture of what's taking place in the industry.

The *NPN* survey is unique in that it profiles over 500 leading companies (both petroleum marketers and convenience store chains) on a company-by-company basis. The aim of this survey is to not only show how many outlets an individual firm now operates, but what its plans are for the next 18 months.

In the past several months, our editors have been gathering C-store industry data by surveying marketers and C-store operators around the United States. To gather this data, *NPN* mailed out hundreds of questionnaires to major and independent oil companies, petroleum marketers and large, midsized and small convenience store companies.

To supplement this survey information, data from the 1992 annual *Market Facts* questionnaires were also incorporated. In addition, *NPN* staff members conducted hundreds of followup phone interviews.

The survey was designed to elicit as much information as possible about industry trends. It was not our intention to derive another total convenience store "universe" number. Instead, this survey focuses on company growth patterns and plans—which companies are growing and which are pulling back on their convenience store investments.

We polled more than 500 companies that not only operate C-stores, but also sell gasoline. The combination C-store/gasoline outlet has become the dominant retail marketing format for both petroleum companies and C-store firms.

In the survey, *NPN* also sought information on store locations, by state, of each company's retail sites. This portion of the survey will be presented in a special report in the January 1993 issue of *NPN*.

Many of the companies surveyed responded to all of the questions. Others were a little less revealing and did not answer all of the questions. However, the information on the following pages offers a good picture of what the great majority of companies are doing in the convenience store business.

The chart on the following pages tracks key trends for each of the companies such as growth in number of outlets since 1990 and projected growth through the end of 1993. Also shown are the number of franchised and salaried operations, the number that sell gasoline, average gasoline sales per outlet and average store size for mini and full-sized outlets.

What the numbers show

Sorting through and summarizing the C-store data presented on the following pages reveals some very interesting overall trends, especially when the data is grouped by size of company (1-25 stores, 26-50 stores, etc.). Here's how those numbers break out:

■ *1-25 C-stores.* Of the respondents in the size category, 163 firms said they had added a total of 392 stores from 1990 to the present time, while 44 firms reported losing (closing or selling) a total of 101 stores.

More interesting yet is the fact that 233 respondent companies said they planned to add a total of 536 convenience stores by the end of 1993, an average of about 2.3 stores/company. Only five companies in this grouping expected to lose outlets, a total of only 16 stores.

■ *26-50 C-stores.* A total of 28 marketers and store operators in this category reported adding 128 stores to their totals since 1990, and another 11 said their store totals had decline by 40 units.

Thirty-two companies said they would add 129 stores (about four per company) in the next 18 months, while one operator expected to lose three outlets.

■ *51-100 stores.* Eighteen companies that currently have between 51 and 100 stores said they added 213 stores since 1990, and another 12 companies lost 79 stores.

Plans for the future: 23 firms said they would add 95 stores by the end of next year and three said they would dispose of 35 units.

■ *101-200 C-stores.* Five respondent companies in this larger (and less numerous) grouping added 47 stores in the past two years, while seven said they had unloaded 90 stores.

By 1993, 11 of these firms expect to add a total of 52 outlets (almost five per company) and two said their store counts would decline by a total of 31.

■ *200-plus C-stores.* In this largest category, 16 companies built their C-store chains by 758 total units since 1990. However, 18 companies reported losing a total of 2,619 outlets in that period. Almost half of this loss (1,222 units) was reported by one company, Circle K Corp.

By the end of 1993, 14 of the larger companies plan to add 554 outlets to their totals. Another nine firms expect to lose a total of 797 stores. Again, the bulk of these losses is projected to occur among two or three very large companies.

The grand totals are as follows:

■ 230 companies added 1,548 outlets since 1990.

■ 92 companies lost 2,929 outlets.

■ 313 companies expect to add 1,366 C-stores by the end of 1993.

■ 20 companies anticipate losing 882 stores by the end of next year.

The net loss of stores since 1990 is 1,381 outlets. However, the projected gain in total outlets by the end of next year is 484 C-stores.

It's apparent from this data that the smaller companies (under 100 stores) are faring much better, in relative terms of store numbers and profitability, than their larger counterparts in today's market. This suggests, although it does not prove, that small and medium-sized companies are more flexible in operating their businesses and are doing a better job of containing costs, keeping indebtedness in line and responding more astutely to local market conditions.

If marketers can meet their projected growth targets over the next year or so, it could signal the economic turnaround the industry has been looking for.

Other data

The survey questionnaires also generated some operational data not found in the following table.

For example, 205 of the responding companies, approximately 40% of the total, now operate car washes at some of their locations. About 80% (405 companies) have deli/fast food operations at many of their stores, and 322 have sitdown eating facilities.

About 60% of the respondents (309) handle lottery at their stores, and 20% have ATM units. About 80% (409 companies) sell alcoholic beverages. However, only 43 companies reported having scanning equipment at any of their outlets, although some companies are known to be expanding their scanning capabilities in a large way.

Approximately 60% of the respondent firms have plans to upgrade a number of their outlets in the coming year, with 303 companies indicating they would remodel or rebuild a total of 1,482 units.